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INTRODUCTORY DISCOURSE

AND

LECTURES

DELIVERED BEFORE THE

AMERICAN INSTITUTE OF INSTRUCTION.

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THE

INTRODUCTORY DISCOURSE

AND THE

LECTURES

DELIVERED BEFORE THE

AMERICAN INSTITUTE OF INSTRUCTION,

IN BOSTON, AUGUST, 1832.

INCLUDING

A PRIZE ESSAY ON PENMANSHIP.

PUBLISHED UNDER THE DIRECTION OF THE BOARD OF CENSORS.

BOSTON:
CARTER, HENDEE AND CO.
1833.

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JOURNAL OF PROCEEDINGS.

ANNUAL MEETING, 1832.

REPRESENTATIVES' HALL, *Aug.* 23.

THE Institute came to order at about half past 8. The most important items of the last year's records were read, the other parts being dispensed with.

On motion of the Recording Secretary, it was *Voted*, that the Institute proceed to business, at precisely five minutes after the time fixed on for meeting, on every day of the present session.

Voted, That the hours of meeting shall be half past 8, A. M. and 3, P. M.

Voted, That the lectures shall be given at 10 and half past 11, A. M. and at half past 3 and 5, P. M.

Messrs SULLIVAN and PIERPONT were appointed a committee to wait on FRANCIS C. GRAY, and conduct him to Park Street Church, where he is to deliver the Annual Introductory Address.

Messrs RAND and CARTER were appointed a committee to report for the public papers, the doings of the Institute from day to day, and to announce the lectures and other exercises for the coming day.

Messrs MACKINTOSH, TITCOMB, SHAW, BROWN of N. Y. and RYDER, were appointed to seat the audience, &c. during the session.

At 10, adjourned and proceeded to hear Mr GRAY's Address.

G. F. THAYER, *Rec. Sec'ry.*

Afternoon, Thursday, Aug. 23.

The Institute met at 3 o'clock.

The Annual Report of the Directors was read and accepted.

The Treasurer's Report was read, — and Messrs MACKINTOSH, and GREENLEAF of Bradford, were appointed to audit it.

Letters from Messrs WOODBRIDGE, JOHNSON, and HALE were read, stating that circumstances would prevent their attending the meeting and giving lectures according to appointment.

A letter from Mr FURBISH, expressing some doubt in regard to the practicability of his attending, was also read.

A letter from Mr ALCOTT, stating that he should not be present, but that he had sent to the city the lecture he had prepared for the occasion, was communicated.

The committee of nomination, consisting of Messrs G. B. EMERSON and A. RAND, of Boston, J. FROST, of Philadelphia, J. G. CARTER, of Lancaster, HEALY, of Pawtucket, G. BROWN, of New York city, and GREENLEAF, of Bradford, reported a list of officers for the coming year, which was accepted; and Mr SHAW was appointed to procure the printing of a sufficient number of copies for the use of the Institute.

A spirited discussion took place, on a motion of Mr PIERPONT, to postpone the lectures prepared for this anniversary, to another year; which motion was finally lost, and the following preamble and resolutions, presented by Mr SULLIVAN, were adopted.

It having been moved, seconded, and debated, whether it would be expedient, or not, to postpone the lectures, the present year, in consequence of the apprehension of the prevailing epidemic, and the fear that there will be a smaller number than usual of attendants in consequence thereof:

Resolved, That there is not, so far as this Institute know and believe, any epidemic in this city, nor any danger from visiting it.

Resolved, That the number of members present, fully justifies the propriety of proceeding in the intended manner, at the present time; and that the several lecturers who have engaged to attend, be notified (so far as the publication of these resolutions will notify them,) that an audience expects their presence.

Resolved, That these resolutions be published in all the newspapers in Boston.

Voted, That the vote passed this morning, providing for four lectures a day, be reconsidered; and that the committee of Arrangements decide on the number for each day, adhering only to the hours designated for lecturing.

Mr ALONZO LEWIS having addressed a note to the Institute, expressing a wish to exhibit some school apparatus:

Voted, That Mr Lewis be requested to leave a specimen of his apparatus at the Institute's room, for the inspection of the members.

An amendment to the Constitution recommended by the Directors, was, after debate, indefinitely postponed.

In connexion with that subject, it was *Voted,* That the several boards and standing committees, whose duty it is to make annual reports to the Directors, be instructed and requested, to furnish the Directors, through the Recording Secretary, with their said reports, on or before the first day of August each year.

Messrs Sullivan, Mackintosh, and G. B. Emerson, were appointed a committee to examine the essays on the teaching of penmanship, and report the successful essay to the Institute.

Voted, That the Institute dispense with evening meetings until further orders.

The list of officers proposed by the nominating committee, was sustained by the Institute, and the following gentlemen were elected for the ensuing year. [See list of officers at the end of the volume.]

The following gentlemen, B. D. Emerson, J. G. Carter, and G. F. Thayer, having declined serving in the respective offices held by them last year, — and Messrs Wirt, Woods, Wisner, Lindsley, and Newman, not having signified their acceptance of their appointments, were not renominated to them.

Peter Mackintosh declined the acceptance of the office of Recording Secretary, and it was *Voted,* That the Recording Secretary of the last year, be requested to serve until the vacancy be filled.

Adjourned at half past 6.

G. F. THAYER, *Rec. Sec'ry. Pro Tem.*

Friday, Aug. 24, 1832.

The Institute came to order at half past 8 o'clock.

The doings of the preceding day were read. A letter from B. A. Gould, stating that he should be unable to furnish his lecture on the learned languages, was read.

On motion of Mr Shaw, *Resolved,* That the Rev. Clergy of all denominations, and Editors of newspapers, be respectfully invited to attend the meetings of the Institute; and that the committee of Arrangements be instructed to publish the invitation.

Clement Durgin was chosen Recording Secretary; but not being present, it was *Voted,* That the late Recording Secretary be requested to officiate until the arrival of the Secretary elect.

On motion of Mr PIERPONT, *Voted,* That the Institute entirely accord with the Board of Directors, in the sentiments expressed on their record in relation to the decease of their late Vice-President, REUBEN HAINES ; and that the doings of the board in the premises receive the sanction of this body.

Adjourned at three quarters past 9, to reassemble at 10.

G. F. THAYER, *Rec. Sec'ry. Pro Tem.*

At 10 o'clock, Professor TICKNOR of Harvard University gave a lecture on Modern Languages.

At half past 11, R. S. HOWARD, of Newburyport, gave a lecture on the Defects of Common Schools.

At half past 12, the Institute proceeded to business.

Voted, That G. B. EMERSON be added to the gentlemen appointed to report the doings of the Institute.

Resolved, That the Government of the Institute be authorised and requested to extend tickets of admission to such individuals as they may deem proper.

Resolved, That the members of the Institute be requested to lay upon the Secretary's table, questions on the subject of Education.

Adjourned to meet at 3, P. M.

Friday Afternoon, Aug. 24.

At 3 o'clock, the Institute met according to adjournment.

Voted, To concur in the recommendation of the Board of Directors to elect DR EBENEZER PEMBERTON, an Honorary Member of the Institute.

Voted, To concur in the recommendation of the Board of Directors, to amend the 4th article of the Constitution, by adding, "and continue in office till their successors be chosen."

The following question was adopted for debate.

"Can instructors have and preserve due respect from their pupils, if they converse with them on terms of familiarity, and partake with them occasionally in their usual exercises?"

A letter was received from G. B. EMERSON, declining the appointment of reporter.

At half past 3, Dr GEORGE HAYWARD, of Boston, delivered a lecture on Physical Education.

At half past 4 o'clock, the subject of Emulation was brought up for discussion, which continued till the Institute adjourned to meet at 9 o'clock, to-morrow.

Saturday Morning, Aug. 25, 1832.

The Institute met according to adjournment.

The subject of Emulation came up as the order of the morning, and, on motion of Mr SHAW, was laid on the table.

Voted, That the Report of the Treasurer for 1830 and '31, be referred to the committee appointed by the Board of Directors to settle with the late Treasurer.

Voted, That ALONZO LEWIS be invited by the committee of Arrangements to exhibit his Astronomical Apparatus to the Institute, during its present session, at such time as the committee may appoint for that purpose.

At 10 o'clock, JOHN PIERPONT delivered a lecture on the Moral Influence of the Physical Sciences.

At three quarters past 11, JOHN A. VAUGHN, of Hallowell, Maine, delivered a lecture on Rewards and Punishments in Schools.

At 1 o'clock, *Voted,* That the Institute will appropriate an hour to witness the illustration of LOWELL MASON's method of teaching music to children, at such a time as the committee of Arrangements may report. Adjourned.

Saturday Afternoon, Aug. 25.

The Institute met according to adjournment.

The question, adopted for discussion on Friday, was brought up for consideration, and, after debate, was laid on the table.

The subject of Emulation was then called up and indefinitely postponed. The Institute then adjourned.

Monday Morning, Aug. 27, 1832.

Voted, That the committee of Arrangements be instructed to take into consideration the expediency of inviting teachers to exhibit during this or the following session, classes of their pupils in the art of reading.

Voted, That a dissertation which had been received, on the Method of teaching children the Meaning of Words, be referred to a committee to report on the same. Messrs PIKE, MARSHALL and MACKINTOSH were appointed that committee.

On motion of Mr Pitts, *Resolved*, That it is expedient for this Institute to appropriate some part of that time usually appropriated to debate, to hearing extemporaneous observations from such members as shall be pleased to give them, respecting the best mode of exciting the human mind to virtuous and vigorous improvement; such speaking being subject to the same rules of order as observed in debate.

At 10 o'clock, S. M. Burnside of Worcester delivered a lecture on the Classification of Schools.

At half past 11 o'clock, Asa Rand, of Boston, delivered a lecture on English Grammar and Composition.

In meeting of the Institute, Mr Pike made a verbal report, that the dissertation on the Method of Teaching Children the Meaning of Words, be referred to the committee of Arrangements.

Voted, That individuals who may intend to propose anything for exhibition at the next anniversary, or to propose any subject for consideration, either to the Directors or the Institute, be and are hereby requested to communicate such intention to the Recording Secretary on or before the first of August next.

Voted, That the members of the Institute be earnestly solicited to furnish such hints in relation to the exercises of the present session, and such propositions for those of the next year, as may most effectually aid the committee of Arrangements and enable them to secure such performances as may best subserve the objects of the Institute.

Adjourned.

Monday Afternoon, Aug. 27.

The Institute met according to adjournment. Mr Shaw introduced a small box of Numbering Rods, and moved that it be referred to a committee of two to report thereon. Messrs Shaw and Pike were appointed that committee.

At half past 3, William H. Spear, of Roxbury, delivered a lecture on the proper mode of conducting Recitations, and the utility of Questions in text-books.

In meeting of the Institute, on motion of Mr Carter, *Voted*, That the thanks of the Institute be respectfully tendered to Gideon F. Thayer, the late Recording Secretary, for his very laborious and acceptable services in facilitating the business and promoting the objects of the Association.

At 5 o'clock, Lowell Mason gave a lecture with illustrations of his method of teaching children Music.

On motion of Mr Carter, *Voted*, That the thanks of the Institute be returned to Lowell Mason, for his interesting lecture on and illustrations in vocal music.

The Institute then adjourned.

Tuesday Morning, Aug. 28, 1832.

The Institute met according to adjournment. Mr Shaw, from the committee to whom was referred the box of Numbering Rods, made a verbal report.

Resolved, That G. B. Emerson, J. G. Carter, and C. Durgin be a committee to draw up a report of the transactions of the Institute, during its present session, for publication.

At 10 o'clock, Dr Spurzheim, of Germany, delivered a lecture on Education.

At half past 11, Elipha White, of John's Island, S. C. delivered a lecture on the Condition and Prospects of Common Education in the Southern States.

Mr Sullivan, from the committee to whom were referred the Essays on Penmanship, made a report, which, on motion of Mr Bailey, was referred to the Censors to dispose of according to their discretion.

Mr Bailey asked and obtained leave to be excused from serving on the Board of Censors. Adjourned.

The Institute met according to adjournment at 3 o'clock.

The Board of Censors having recommended the reading of the Prize Essay on the Teaching of Penmanship, it was voted that said Essay be read.

At half past 3 o'clock, Wm. B. Calhoun, of Springfield, delivered a lecture on the duties of School Committees.

Resolved, That the thanks of the Institute be presented to Dr Spurzheim, of Germany, for his interesting lecture on Education, and that he be respectfully requested to furnish a copy for the press.

Resolved, That the thanks of the Institute be presented to Ebenezer Bailey, for his valuable and arduous services, as a member of the Board of Censors since the establishment of the Institute.

Resolved, That the thanks of the Institute be presented to the gentleman, who delivered the Introductory Address, and also to the several lecturers, for their very acceptable, interesting, and useful performances.

Voted, To recommend the common use of School Libraries.

Resolved, That the interesting transactions and punctual attendance of the members of the Institute, during its present session, have been such as to give the friends of the Association increased confidence in its tendency and power to accomplish the great purposes of the Institute.

Resolved, That, considering the principal remarks of Mr CALHOUN, in his lecture on the Duties of School Committees, would contribute much to the general improvement of public schools, Mr CALHOUN be requested, in the name of the Institute, to prepare a pamphlet, containing his remarks, and that it be published by the Government of this Association.

Adjourned *sine die*.

CLEMENT DURGIN, *Rec. Sec'ry*.

INTRODUCTORY DISCOURSE.

BY

FRANCIS C. GRAY.

INTRODUCTORY DISCOURSE.

MR. PRESIDENT AND GENTLEMEN,

WHY are we here? That the members of this Institute should meet together to communicate the results of their reflections, and impart the fruits of their observation and experience to each other, is indeed one of the main objects of your association. But why these open doors, this general invitation, this mixed assembly? And why this discourse from one, who has not the honor to be of your number, and who is not particularly acquainted with the subject of education in theory, nor at all conversant with it in practice? Unquestionably it was your purpose, that I should speak, not so much for you, to any one of whom, on such a topic, it would rather be my privilege to listen, as for those, who are assembled here by your invitation; that I should present those general views, which though trite and familiar, no doubt, to yourselves, are yet the most appropriate to so promiscuous an audience; leaving the scientific investigation of the several topics, which invite your attention at the present session, with those, to whom they have respectively been assigned, on due consideration of the peculiar means of information possessed by each.

Gentlemen, a mighty revolution is going on round us; involving not only the fortunes of dynasties, the forms of governments and the distribution of political power, but the whole structure and organization of society; and destined to produce lasting and unalterable effects on the character and condition of our race. So great is the abundance, and so general the diffusion of the means of sub-

sistence in civilized communities, at the present day; and such are the facilities for acquiring and imparting information on all subjects, that active and intelligent minds, in every condition, have now the opportunity, as they always have the disposition, to set themselves to thinking and communicating their thoughts to each other. The first lesson they have learned is their own power, their command over that public opinion, which rules the world. And accordingly opinion no longer submits to authority. Nothing is left unquestioned. The ancient landmarks have ceased to be respected for their antiquity. Their very foundations are scrutinized. It is not enough now, to say of any custom or establishment, that it was always so, or that it was founded and maintained by the wisdom of our ancestors. Men begin to feel the truth of the maxim, that the respect, which youth owes to age, is not due from a generation to its predecessors. It was the ancients, who lived in the infancy of the world. And therefore they wanted that experience, from which, among individuals, age derives its authority. It is we, who live in its old age, or rather, as we flatter ourselves, in its full maturity. And hence, as we have more experience than they had, and do not admit, that we have less ability, we claim the right to rejudge their judgments, and to criticise and reform their institutions. The claim is in substance just. And when it is rightly understood and correctly exercised, it will produce the greatest benefits. But when those, who exercise it, assume that they are more capable of judging, not only than any preceding generation, but than all generations, and especially when they shut their eyes to that very experience, on which alone their claim to superiority is founded, it may, it must lead to incalculable mischief.

The mysteries of learning also are regarded with as little respect, as the authority of antiquity. Although the adepts in science may still use technical terms, in their intercourse with each other, and indeed in most cases must do so, in order to speak with sufficient accuracy, they are no longer permitted to palm off such terms upon the public, thus ostentatiously veiling their knowledge, or sometimes perchance their ignorance; but are justly required, on all occasions, to speak common sense in language intelligible to their hearers. Properly applied, this too will produce immense advantage. The general principles and grand results of a science, when stripped of

all technicality and presented in a definite form to the common judgment of mankind, are subjected to a new test of their truth and value. Such intercourse, real intercourse between adepts in any science and the public is highly useful to both. It tends to prevent the former from being entangled and lost in the mysteries of technical subtlety, and acquaints the latter with the object and character of the science, thus vindicating and recommending its pursuit. When however, it is attempted to detail the specific processes and precise rules of an abstruse science, by means of a mere catechism, and to make a royal road to knowledge for all the world to walk in, without care and without effort, the result and the whole result is, that we exchange one sort of obscurity for another. We get vagueness instead of mystery, and the pedantry of ignorance for the pedantry of learning.

This bold spirit of inquiry, which, when rightly directed, produces inestimable good, and, like every other power entrusted to man, when abused, proportionate evil; is, at this time, directed to no subject more generally or more eagerly, than to our established systems of education. The attempts which have been made, in modern times, to bring about beneficial and permanent revolutions in the political and civil organization of nations, to dissolve society into its elements and to reconstruct it on a better model, have been attended with so much suffering and so little success, as to convince reflecting men in general, that a thorough reform in the whole structure of any community is not likely to be peacefully and completely accomplished, by the generation, in which it is first undertaken, and that the mass of those, who have been trained up with exclusive reference to one state of society, are hardly capable of administering or enjoying one totally different; and hence the improvement of education has come to be regarded by many as the first certain and safe step to all radical and permanent improvements in the condition of men. Here it is, that he must take his stand, who seeks at the present day to move the world.

Under these circumstances, it is a subject of congratulation for us, that an Association has been established here, calculated and competent, within the proper sphere of its influence, to direct the spirit of inquiry on this important subject in the true path, and invigorate it by united exertions. Who, while they are endeavoring

to accumulate such knowledge of facts with regard to education, as may deserve, when properly arranged and classified, to be considered as constituting a science, submit the general objects, principles and results of their labors to the public in a form not only intelligible, but attractive; and at the same time, subject those principles, and the systems and processes, which are worthy of such examination, to strict scrutiny, and varied experiment, conducted by persons competent for the task. Who mean, that the science to be established by them, shall approve itself, in all its great features, to the common judgment of mankind, and shall also, even in its minutest details, bear the test of the closest scientific investigation.

An association, whose great object is to be practically useful, will naturally first direct its attention to the prevalent errors of the day. Among these, there are few more prominent, than the multiplicity and variety of new schemes for education, and the extravagant importance attached to many of them by their respective adherents. It is probably owing to the intense interest felt in this subject, that many, impatient of the slow process of accumulating facts by observation and experiment, the only one, by which a science, worthy of the name, can be established, have published systems founded on their own solitary experience, or on assumed principles. And to the same cause we may ascribe the extravagant zeal, with which those systems have often been supported. One practical disadvantage resulting from this is, that it sometimes causes particular modes and processes of education, which really possess intrinsic merit, to be misapplied or carried beyond their just limits, thus immediately producing inconvenience and tending ultimately to bring that merit into question. To teach writing by means of the black board, directing the pupil to copy, with his pen, the letters inscribed upon it, reducing their size but preserving their proportions, seems to be a misapplication of that useful instrument. And however excellent the system of mental arithmetic, as it is called, may be as a discipline for the minds of children, surely they exaggerate its importance, who would make it a complete substitute for the five good old rules. Another disadvantage occasioned by an undue attachment to general systems is, that it tends to withdraw the attention too much from the personal qualifications of teachers, which must always, or at least in

the present state of the science, be far more important than the mode of instruction. Let me not be understood to represent all systems as equal or unimportant. The arguments, which have been urged to that effect, are by no means satisfactory. True it is that no system can counteract the diversities of natural talent, or prevent the operation of those unforeseen and uncontrollable accidents, which occasionally defeat all our precautions. But what then? Since the seed is cast abroad on every variety of soil, it may sometimes fall among weeds, at the roadside, or upon the rock; and sometimes its fruit, even when it appears whitening for harvest, may be destroyed by a secret defect or by an unexpected calamity; and thus the toil of the husbandman may be rendered vain. But who shall therefore say, that his art is futile?

But the multiplicity and variety of the schemes suggested for the improvement of education may be productive of much good, if the operation of each be regarded as a series of experiments, of which the precise results are to be observed and recorded as facts conducive to the improvement of the science. And in this point of view the zeal and enthusiasm, with which they are supported, may be regarded as useful, tending to exhibit more completely whatever of truth they contain, and to make their results, be their character what it may, more conspicuous and decisive. A service may be thus rendered to the world like that rendered to it by the obstinate perseverance of the alchymists, which, though it did not lead to the discovery of the philosopher's stone they sought for, yet contributed not a little to the production of a treasure far more precious to mankind, the science of chemistry.

So far is education from having yet attained the character of a science, that men, eminent men, are not yet agreed as to its object. Milton proposes it as the aim of the scheme recommended by him, "to fit a man to perform justly, skilfully and magnanimously all the offices both private and public of peace and war." A glorious vision, and well worthy of the lofty imagination of its author, but incapable of being realized among any civilized people. The savage may indeed master all the knowledge of his tribe, and fit himself for all its offices. But as society becomes cultivated and refined, the various offices of peace and war become more and more numerous, diversified and difficult, till it is altogether impossible for

any one man, in the course of a long life, to fit himself for them all, or even for any considerable portion of them. Reduced within narrower limits, this scheme would be substantially the same, as that, which proposes for its object, the complete and harmonious development of all the faculties. If this be understood, in its obvious sense, to mean, that the human faculties should be developed in a certain fixed relation to each other, under all circumstances, and that a man should be trained up so as to become a perfectly symmetrical being, entire and self-dependent, it seems hardly less visionary than the plan of Milton. And to what end should this be done, since the various avocations of different individuals, by calling into exercise various faculties, must speedily destroy this perfect symmetry in each. If however, we understand it, as perhaps we should do, to mean only, that each faculty should be so far developed, as to be capable at all times of healthy and vigorous action, this is undoubtedly the first object of early education both private and public. It may be and often is combined with that of communicating the knowledge most important to be remembered. But I do not know that this connexion is invariable, and that the knowledge most likely to be useful in after life is that, which will, in all cases, best exercise the faculties of youth. All analogy is against such an assumption. In gymnastics, which are admitted to develope and invigorate the powers of the body more uniformly and effectually than the ordinary occupations of life, much is learned, which there is no expectation of practising afterwards. And besides, for two persons in similar situations and destined to the same pursuit, the same knowledge must be equally useful, and yet their minds, from some difference original or acquired may need very different discipline. Let any man moreover reflect, how very much of his habits of thought and of action, of study, of feeling, and of self-control, can be traced back to the days of his boyhood; and how very little of his knowledge.

But the education, which accomplishes no more, than to bring the faculties of the body and the mind into a healthy state, is equally adapted to all times and places; and has little else to do, than to remove improper restraints; since all these faculties, if secured from pernicious influences and allowed free opportunity for exercise, will grow up, in the ordinary course of nature, in a

healthy and vigorous state, under almost any circumstances. If it were possible to suppose, that education should stop here, and send forth its pupil with a healthy body and a healthy mind, but altogether uninstructed, he would be equally fit, or rather equally unfit for any state of society. It must go further. It must qualify him to hold a place in the particular community, in which his lot is cast. Now in this view of education, is regard to be had mainly to the benefit of the individual or to the benefit of society, to his cultivation and improvement as an insulated being, or to the advantage of the community in which he lives?

This is the question. It seems to have been originally suggested by a consideration of the effect of what is called the division of labor in mechanical pursuits, which is to render each individual better fitted for his particular task, and less fitted for any other, while the advantage resulting to society from this harmonious combination of the labors of all is inconceivably greater than would have been produced by the aggregation of the independent labors of each. It is often understood, with too much reference to the case, which suggested it, as a question between the general intellectual improvement of the individual, and his attaining such skill in his particular occupation, as may most advance the wealth of the community. If it be thus understood, the whole aim of our systems and institutions should be to promote the improvement of the individual. But this is altogether too narrow a view of the subject. It ought to be considered, on the one hand, that the individual is to be fitted, by education, not merely for his art or profession, but for all his social duties; and, on the other, that the advantage of society does not consist in wealth alone, but in the improvement and happiness of all its members; and viewed in this light, the difference between aiming at the one and at the other becomes so minute, as to be almost evanescent, and to render it a matter of little practical importance how the question is decided.

It ought also to be considered, that the mind is not confined to one narrow and precise path, in which alone it can move with ease and safety; but that it may engage in any one of a multitude of pursuits, and may exercise and improve mainly any one of its faculties, if not without diminishing that exact symmetry, which constitutes ideal perfection, yet, at least, without impairing that healthy

and vigorous action, which is the only practical good to be attained under any system. Happy for us that it is so; — for so various are the states of society and the conditions of life, in which men are placed, that occupations, at one time essential to the happiness, and even to the safety of the individual and of the community, are rendered entirely superfluous by a change of circumstances, and other occupations calling into exercise and mainly developing different faculties become all-important.

Since then a great variety of pursuits, appropriate to all possible varieties of human condition, are all equally compatible with the improvement and happiness of men considered as individuals, this seems too indefinite an end to be proposed as the precise object of a distinct science. The great aim therefore, as it seems to me, of the science of education, at least of intellectual education, to which my remarks on this occasion mainly refer, is to promote the advantage of society, to train up men in the knowledge and to the pursuits most useful to the community, in which they are destined to live.

But what is useful knowledge? And what are useful pursuits? No term has been more abused, in treating of education, than this word Utility. In a large and liberal sense, it is indeed the whole object of education. Men should be taught nothing but what is useful, practically useful. And in reasoning from this principle, we shall fall into no error, if we always use the word in this sense. But if the term practically useful be confined, as it has sometimes been, to those occupations, which tend to supply our physical wants merely, then utility is not the sole, nor even the highest object of education. Undoubtedly, when the acquisition of the means of subsistence comes into direct competition with the acquisition of anything else, so that one of them only can be enjoyed, the former must be preferred, and every possible exertion must be made to secure it. But to suppose, that our exertions are to terminate here, is to mistake the means of living for the end of life. We must indeed have food, and shelter, and clothing, in order to live. But wherefore do we live? Surely not to accumulate more of these than we can possibly make use of. There would be neither utility nor enjoyment in this. Probably there never was a community, in which all the efforts of its members were constantly

requisite to supply their own physical wants. Certainly we are not such a one. The dictate of nature to the individual is the rule for society. He is impelled to satisfy his bodily wants by irresistible instinct. But this done, he is impelled to exercise and indulge his intellectual faculties by a craving as instinctive and as irresistible as the cravings of the body. He is conscious that by this indulgence and exercise, those faculties are nourished, strengthened and exalted, and he feels that in gratifying and improving them, he is enjoying the purest pleasure. He knows also, that he is thus fulfilling one of his highest duties; for there is a voice within, which tells him so, independently of all reasoning. It is true indeed, that these faculties might be employed by him in cultivating the arts, which tend ultimately to promote physical comfort alone. But it is neither possible nor desirable, that the thoughts and the labors of all men should be devoted to this single object. The result would be to heap up more of their productions than could possibly be consumed. These arts, it is admitted, must first be sufficiently provided for. And the persons engaged in them are certainly usefully employed. But not more usefully, nor more practically in any just sense of the term, than those who are engaged in pursuits, the only aim of which is to satisfy our intellectual wants and improve our intellectual nature.

These positions seem hardly to need illustration. But the want of a distinct apprehension of them has led to serious mistakes with regard to the proper objects of education, and especially to an erroneous estimate of the value of classical learning. It may therefore be not inappropriate to illustrate them by shewing their application to this branch of knowledge.

The structure of the human frame alone is sufficient to shew, notwithstanding the speculations of the Philosophers, that the social state is the state of nature. The human mind proves this still more strongly. Its necessary food, that, which it craves and by which it is nourished, is intercourse with other minds. By his intellectual nature man is not only united with his contemporaries, but bound up into one great society with his whole race. He is connected with the past and with the future. He can "hold high converse with the mighty dead," and send down his own voice to the remotest generations. His highest privilege and enjoyment is

to associate with those distinguished by moral and intellectual excellence, either in his own age or in preceding times. Hence the value of an acquaintance with those ancient writers, who have been pronounced by the unanimous opinion of subsequent generations to be the light and the glory of our race; "by the diligent perusal of whose works, men are led and drawn in willing obedience, enflamed with the study of learning and the admiration of virtue; stirred up with high hopes of living to be brave men and worthy patriots, dear to God and famous to all ages."

But I will not dwell on these general considerations, simply remarking, that to call studying the works of these men learning Greek and Latin, is as preposterous, as it would be to call the study of Locke and Milton learning English.

Neither will I attempt to examine or even to notice the various objections, which have, at different times, been urged against classical learning; since its adversaries among us seem lately to have retreated to the single position, that whatever may be the advantage of studying the works of the ancient writers, it can be obtained through the medium of translations. This is their stronghold. Now if we studied those works only for the facts and the arguments found in them, the position might be maintained. We might even get these more easily still by having the facts reduced to chronological tables, and the arguments to a series of syllogisms. But it is not so. We study them, as the most appropriate discipline for the mind of youth at the period, when they are generally read, inciting it to strenuous exertion, but not eluding its grasp; offering far more than a mere exercise for the memory, yet tasking the higher powers of the intellect without overtasking them. We study them, as the best means of acquiring an insight into the nature and power of language in all its generality, and of obtaining a more complete command over our own language, by the practice, in translating, of applying it to processes of generalization, and to trains of thought and sentiment, which we are fully competent to comprehend, but not at that age, if at any, to mature or even to originate. We study them, because the unequalled grace, simplicity and vigor of their style tend to improve our taste, and because its admirable precision accustoms us to accurate expression, which has much to do with accurate thinking, since words are not only the vehicles but the

instruments of thought. These advantages however, though of the highest importance, can only be indicated, since the investigation of them would lead to discussions too extensive, abstruse and minute to be compatible with the nature or with the limits of this discourse. We study them also for the emotions, which they excite in us. The firm purpose, the high resolve, the generous self-devotion, which they exhibit, are expressed with such felicity and force as cannot fail to impress them most deeply on the mind of the reader. And if it be one fitted for their reception, though they may be long forgotten, they will not be lost. When the sentiments inspired by a familiarity with such works shall be recalled to him, by the natural association of ideas, on some occasion proper for their exercise, they will spring up with all their original power, like the voice of a Divinity within him, to banish doubts, support endurance, or animate courage. There is no student among us, imperfect as our knowledge of the classics generally is, who does not constantly feel, that their sentiments are conveyed with a simplicity, precision and power, which it is impossible for him to transfer to his own language. And no wonder; since among all the translators of modern times, many of them among the most eminent writers of their respective countries, there is not one, who professes to have accomplished it.

Take even the modern languages, in translating from any one of which into another, it is admitted that we approach much more nearly to the original than in translating from the more perfect languages of antiquity. How happens it, that, of the most admired epic poems, works read again and again by all, in whose language they are written, and never without intense admiration and delight, sometimes exciting them even to tears, not one has ever been known, in translation, to produce any such effect, or even to have become tolerably popular? Let any man read a French translation of Shakspeare, either the literal translation of a few celebrated scenes contained in the works of Voltaire, or the free translation of Ducis. The perusal will undoubtedly excite strong emotions. But they will be very different emotions from those excited by the original. Or selecting a more favorable example, examine the translations from the same author by Schiller or by Schlegel, which possess the highest merit, exhibiting the thoughts and sentiments of the original with wonderful precision of outline. How

often do even these fail to catch those delicate shades of expression, which, slight as they are, give to several of the finest passages their peculiar tone of feeling, and invest the airy nothing with identity and existence; themselves almost as evanescent and as imperceptible, yet as potent, as the breath of life? The truth is, that the most idiomatic expressions are always the most forcible, and at the same time the least capable of being translated. Select any of those pathetic Scottish phrases, which have become as familiar to us as our own language, or any of the striking national expressions so often found in the Waverley novels, and translate them as accurately as possible into modern English; and what are your versions? They present the same idea. But do they touch the heart?

The mere tone and manner, in which passages from our own authors are read, often give us a new conception of their force and even of their meaning. And shall not the happy arrangement and nice transition, the terseness, simplicity, grace and harmony, which are from their very nature instranslateable, shall not these affect us? It is said, that Æschines, while giving lectures on rhetoric at Rhodes, after his banishment, read to his audience the oration, which he had delivered in his great contest with Demosthenes, and that it was heard with loud applause. He then read that of his adversary, but was interrupted by shouts of rapture. "What then would you have said," cried he, "what would you have said, had you heard him thunder it?" If it would be absurd to suppose that any man, however perfectly master of the Greek language, could, on reading that oration at this time, feel as they felt, who heard it; it is equally so to suppose that the most perfect translation, which the nature of human language will permit, can convey the same impressions as the original, the very words and syllables, which he that day uttered. And neither of these suppositions is less absurd, than it would be to imagine, that the same emotions may be excited by looking on a panorama of Niagara, as by standing on its brink.

If this argument against the classics is valid, then all poetry is worthless, all eloquence, and everything else, which appeals to the taste, the imagination or the feelings. These can never be rendered in all their clearness and force by a paraphrase; and the translation of them can never be anything more than a paraphrase. As

long as it shall be important to society that men should exist skilled in the arts of speaking and writing, so long the classics must be read. Such men must read them, for the same reason, that those, who cultivate the imitative arts, study the remains of ancient sculpture and architecture. They must be read also by those, who wish to possess a high relish for the beauties of similar productions or an accurate judgment of their merits. The public is benefited by the increase of the writer's, artist's and critic's skill, not merely because the works of literature and of art are thereby improved, but because the taste of the whole community is raised to a higher standard, through their influence, and thus made capable of higher enjoyment. If the case stopped here, all, who allow that the remains of ancient art should be studied by artists and by those, who would appreciate their works, must allow also, that the remains of ancient literature should be studied by literary men, and by those, who would appreciate theirs. But it does not stop here. Admit all, that the warmest admirers of the fine arts will claim for them; that they exalt the imagination, interest the feelings, gratify and purify the taste, soften the manners and subdue their fierceness, and give grace and refinement to every condition of social life. The arts of elegant writing and eloquent speaking do this also. And to them these effects, which are the ultimate end of the fine arts, a worthy and an elevated end, to them these effects are but the means of attaining an end still more exalted and more noble; that of subduing the passions, purifying the heart, elevating the character, and sometimes, rousing the whole man and all within him to the most intense exertions of intellect and the highest efforts of virtue. Surely nothing, which has the slightest tendency to give perfection to arts like these, can be useless or indifferent to society.

Not that the classics should be studied by every man. No one branch of knowledge can claim this preëminence. But they should be studied by those, who would imitate or fully relish the peculiar excellences, of which they are the most perfect models. Not that this study is to be deemed, as it once was, the sum and substance of all learning. But it ought to be numbered among the pursuits of a refined and prosperous people. Five or six centuries ago, the ancient languages were the keys to all knowledge, for no other language then contained anything worth knowing; and scholastic

institutions, which are too apt to adhere to ancient opinions, continued to regard them as such, long after they had ceased to be so. Hence, at a subsequent period, their value was greatly overrated in comparison with other branches of knowledge, the offspring of later times; and the consequence has been that, by a natural reaction in popular sentiment, they are at the present day esteemed too little, and are regarded by many as absolutely worthless. But those, who entertain a liberal and enlightened view of utility, will always allow to the study of them, in every highly cultivated community, a place and an honorable place among the occupations useful to the public.

I have dwelt thus long on this topic, Gentlemen, not only as the most striking illustration I could present of the nature of that utility, which should be the object of education; but because even this humble attempt to correct a prevalent error may give to my remarks on this occasion something of a practical tendency, an object, which ought to be aimed at in all those public discourses, the frequency of which seems to be characteristic of our country.

Since the end of education is the advantage of society, it must adapt itself to the condition of society, and as this changes and improves, must be so modified as to supply its varying and increasing wants. The division of labor is as important in intellectual as in mechanical pursuits, and it should be guided by liberal and comprehensive views, looking not merely to the wealth and physical comfort of the community, but to its general welfare. As civilization advances, this division must become more and more minute, so that every separate branch of knowledge may be carried to a higher and higher stage of improvement.

This science also must have regard not only to the advancement of knowledge by the division of labor, but to the diffusion of that knowledge, and the distribution of its fruits among the people. To this end, some general idea of the peculiar object and character of every intellectual pursuit should be made familiar to the minds of all men, and the means of prosecuting any one of them be placed within the reach of all. There are few, whatever may be their occupations, who are not able, by the diligent employment of their leisure hours, to make themselves well acquainted with the principles of some one, at least, of the liberal sciences or elegant arts.

And the more extensively and effectually this is done, the more is the intellectual character of the whole people elevated.

Under the influence of these impressions, we cannot but feel a lively interest in the efforts, which are now making in England to provide the working classes in that country with the means of intellectual improvement, and esteem the hours devoted to such improvement to be occupied as usefully for the public, as those, which are passed at the plough or in the workshop: though I must still insist, that the shepherd's boy, who gave all his leisure time to the study of the classics, was as worthily employed as the mechanic, celebrated by Lord Brougham, who gave his leisure to the study of Entomology.

But while we applaud and seek to imitate those distinguished men in England, who are endeavoring to render every branch of knowledge as accessible, as possible, to the diligent study of every member of the community, we should be careful not to overlook the prominent defect of education among ourselves.

This is, not that it wants extent or variety; but that, with reference to the present state of society, it wants *thoroughness*, especially in our higher seminaries of education. These have no doubt been constantly improving. But society has improved still faster. The public demand for a higher state of culture in every department of education is obvious, general, imperative. It must be satisfied. This can be done in no other way than by raising the whole standard of education. The highest must rise still higher. Those, who go furthest, must advance still further. And all the rest must follow. The most obvious and natural mode of producing this result is to begin at the top; to improve the condition of our highest seminaries. Let me invite your attention to this subject, not as deserving any preëminence over the other topics, which have been and are about to be presented to you, but as worthy of sharing your regard with them, and because I do not perceive, that it has at any of your sessions been specially submitted to your consideration.

The University in our neighborhood was founded, as you are all aware, only a few years after the first settlement of the country, with a view, like most others of so early a date, to instruction in Theology. One hundred and ninety years ago, the requisites for

admission were that the applicant should be able to read Tully or some other classical Latin author into English, and to speak Latin readily, and write it correctly both in prose and verse, and to decline the Greek nouns and verbs. For at that time and till nearly a century afterwards, Latin was used by scholars of all countries both in conversation and correspondence. It was in fact, during this period, the living language of learned men. The literary requisitions for the Bachelor's degree were that the student should be able to translate the scriptures both of the Old and the New Testament from the original tongues into Latin, and to resolve them logically; and should be versed in the principles of natural and moral philosophy. Their logic and philosophy were those of the day, and an idea of the extent, to which these were cultivated may be gathered from the theses published and defended at the first Commencement, in 1642, which were printed at the time in England, and are preserved by Hutchinson in his History. The same system continued till the beginning of the last century, in the course of which the whole plan of education was entirely changed and brought to the state, in which it continued for many years previous to 1805. Since that time, attempts have been constantly making there, and in all the colleges in New England to improve education, by increasing the number of teachers and introducing new text-books, so as to adapt it more and more to the condition and wants of the community, and render it more and more practically useful.

But in one respect, and it is that, to which I would particularly call your attention, the mode of instruction is in all the same, and has been so, I believe, from the beginning. The students are divided into classes, according to the term of their residence in college, and all the members of each class receive the same instruction and perform the same exercises. Now the disadvantage resulting from this is, that as there must be great diversity of talent among them, the task assigned cannot be an appropriate lesson for all. If we suppose it adapted, as it no doubt generally is, to those, who hold a middle rank, then those of inferior capacity, who cannot master it, even if they do not sit down as they will be too apt to do in discouragement and despair, will either endeavor to conceal their ignorance by tasking their memory, or they will blunder

on to the end without exercising any of their faculties, and without obtaining any substantial information. And in either case, they will be likely to acquire bad habits of study, if not of conduct. Let the best happen, that can happen, and they must lose at least their time. And what a time? The spring of life, on which all its hopes depend, cut out of their existence. On the other hand those, whose superior abilities or peculiar aptitude for a particular study enable them to perform their task in it so quickly, as to leave them much leisure, supposing they escape the temptation to engage in frivolous and unmanly pursuits, will probably acquire a habit of desultory reading, or should any of them engage systematically in some fit occupation, will want the incitements, by which their exertions are usually animated and the instructions of competent teachers. It is obvious that no variation in the amount of duty required of the students would remove these evils.

Yet perhaps a remedy is not impracticable. Let the ordinary tasks assigned to each class be such, as any student fit for a collegiate education, can perform with due diligence in the time appropriated for study; and let instruction be also provided in every department of learning, for those, who may wish to prosecute any one beyond the required course. Allow each scholar the opportunity at fixed times of entering his name as a voluntary student in any one or more of these departments, which he may select, with the single restriction (necessary to prevent capricious changes and desultory study) that whatever course he has once undertaken shall be pursued, till he has completed it. And to insure punctual attendance and diligence, let him receive the same marks for merit and the same censures for absence and neglect as in the ordinary course of study. In the distribution of college honors and rewards also of all kinds, let the same regard be paid to proficiency in the studies thus voluntary chosen, as to proficiency in the regular collegiate course. It cannot be doubted, I think, that the standing of the students in the voluntary classes, in which they would naturally be arranged on this system, would be the great test of scholarship, and that the students, feeling this, would embrace the opportunity thus afforded them for improvement with eagerness.

The experiment is not altogether untried. In the department of the Modern Languages in Harvard University a similar plan

has for some years past been pursued with complete success. All attendance in that department is voluntary. But those, who attend during a certain period, are excused from a like amount of study in other branches. These are the regular students, and the time thus allowed is sufficient for them ordinarily to obtain a satisfactory knowledge of two foreign languages, so as to read them with facility, and to write them with tolerable correctness. But those, who can find leisure from all their other college duties, may receive instruction at other times, and the number of these is often as great as that of the regular students, and lately even greater. In this way some individuals have acquired five languages, French, German, Italian, Spanish and Portuguese.

If this system were extended, facilitated and encouraged in the manner above proposed, it would deprive those who either cannot or will not succeed in some particular study, of all apology for passing the whole time allotted to that study in idleness. It would also enable each scholar to direct his studies in a great measure with reference to his peculiar taste and talents or to his future pursuits. And it would send forth for the public service some individuals highly accomplished in every department of learning.

In this connexion, it may gratify you to learn, that a department of Philology has recently been established in the University, though it has not yet been long enough in operation to enable us to judge of its success. Its object is to extend the cultivation of classical learning. The course of study beginning with the senior year will occupy two years. It will be open to such seniors and graduates as may choose to attend it, and will be conducted with a special view to qualify them for instructors. It is contemplated to add to this department a course of mathematics of the same extent and directed to the same object.

If this department shall prosper, and shall send forth accomplished teachers, their influence will contribute to raise the standard of education in all our seminaries, and in aid of the efforts now making so successfully in our academies and schools, and of those measures, which the members of this Institute shall recommend and put in practice, will tend to satisfy the pressing wants of the community.

Your utmost exertions however will not be more than sufficient to keep pace with the progress of our country. I am aware, that

we Americans are often ridiculed for dwelling on our progress and our prospects, and reminded that other nations boast of their achievements and not of their expectations. It is not worth while to boast of either. Though with reference to the subject now under consideration, we might well ask where and by whom the rudiments of knowledge, the elements of intellectual, moral and religious instruction were ever sent down to every fireside and freely offered without money and without price? Where, but in New England? By whom, but by our fathers?

The opinions of men are undergoing a rapid revolution on these subjects, and the time will soon come, when the credit of this achievement will not be altogether eclipsed by the dazzling triumphs of genius or the splendor of military success. But you regard it in its true light; and consider all, that has been done in this respect, as nothing but the means of doing more.

All honor to the nations, which have already achieved greatness. Let them exult in their renown unenvied. We are contented with our lot. The age of effort and of advancement is that of enjoyment also, even when it is not that of glory. Strenuous, well-directed, devoted exertion to promote the good of others, — what else is merit? The success of such exertion, — what else is happiness? Gentlemen, by the blessing of God, may that merit and that happiness be yours.

LECTURE I.

ON

THE BEST METHODS

OF

TEACHING THE LIVING LANGUAGES.

BY GEORGE TICKNOR.

TEACHING THE LIVING LANGUAGES.

MR PRESIDENT AND GENTLEMEN:

THE most important characteristic of a living language, — the attribute in which resides its essential power and value, — is, that it is a spoken one; that it serves for that constant and principal bond of union between the different individuals of a whole nation, without which, they could not, for a moment, be kept together as a community. This great and prevalent characteristic is, therefore, everywhere visible in its structure, arrangements and expression; hardly less so in books, than in conversation. The main object, indeed, to which every other is sacrificed, in the formation of a language is, to facilitate personal intercourse; to enable one human being, in the easiest and most direct manner, to communicate to another his thoughts and his wants, his feelings and his passions; and to this great object every living language is essentially, and, it may almost be said, is exclusively adapted in its vocabulary, its forms, its inflexions, idioms and pronunciation.

The easiest and best method, therefore, for persons of all ages and all classes to learn a living language is undoubtedly to learn it as a spoken one; since this is not only its paramount characteristic, but is the only foundation on which the written language has been built or can rest. Persons, then, who have the opportunity, should learn the living language they wish to possess, as it is learnt by those to whom it is native. They should reside where it is constantly spoken, and use it, as it is used around them. It should be the minister to their hourly wants, and the medium of their constant

intercourse. Even the books they read should be chosen with reference to the habits and peculiarities of the spoken idiom that produced them, and in studying the language itself, it should be pursued less as a foreign language than as one which they may claim among their birthrights. This is the natural method, and is, no doubt, the most effectual and the easiest.

Only a few persons however are able or willing to avail themselves of it. If we wish to instruct our children in a foreign language, we find it inconvenient and unwise to send them among strangers, in a strange land to learn it: and, if we undertake to teach them at home, we shall hardly be disposed, like Montaigne's father, to surround them only with those who speak no other than the one we wish them to acquire. In the vast majority of cases, therefore, we must resort to means somewhat more artificial and indirect; and, while still endeavoring to teach it as a living and a spoken language, use the best method within our power at home.

What, then, is this best method? For this is precisely the question you have done me the honor to propose to me; and as it is entirely plain and practical in its nature and objects, I shall not venture, in the reply I may endeavor to make to it, to go in any respect beyond the limits of my personal experience and observation, or wish to say anything which is not as perfectly plain and practical as the question itself.

Before, however, we enter on the topics it involves, it may be necessary to premise, that there is no *one* mode of teaching languages, applicable to all classes and characters, or to persons of all the different ages and different degrees of preparation, who present themselves to be taught. Instruction in this branch of education, even more than in most others, cannot, without great violence and injustice to a large proportion of the pupils, be managed upon a Procrustes system of stretching all who have not the proper intellectual size, till they are brought to it, and of cutting down all who are grown beyond its proportions, till they are sufficiently reduced to fit its demands. On the contrary, it is, perhaps, the most important part of the duties of a teacher in the living languages, and the highest exercise of his skill, to select from the different systems and modes in use, what may be most appropriate to the whole class of pupils submitted to his care, and then to endeavor again to ac-

commodate and arrange what he has thus selected for the whole of his pupils to the individual capacities, dispositions and wants of each. Thus it is plain, that a method adapted to children seven or eight years old, would be altogether unsuited to persons in the maturity of their faculties; — and, even in the case of those of the same age, who might more naturally be thrown into the same class, it cannot be doubted, by persons accustomed to the business of instruction, that a mode entirely fitted to an individual already familiar with other languages and with philosophical grammar, would be no less entirely unfitted to one, who had gone through no such previous preparation, and who should come to his task without regular habits of study or acquisition.

But, though no universal method can be pointed out, which will suit all the individuals, who might pursue it; and though even a general one, which might suit a particular class might need modifications in relation to some of its members; still there are, no doubt, principles which may be ascertained and settled — principles, which rest on the nature and laws of the human faculties, and which it must, therefore, be important to understand rightly and to apply with judgment. Undoubtedly, too, experience and skill have long since discovered most of these principles, perhaps all of them; and established land-marks, which, pointing out the way others have trodden with safety or success, may prevent us, if we are wise, from making impossible experiments or falling into gross deviations. Bearing in mind, then, that something may be done by systems, though not so much, as is usually imagined or undertaken; and especially remembering, that nothing can be done wisely, which has not a constant reference to the different classes, ages, and characters of the pupils to be instructed, I shall divide what I have to say on the best methods of teaching the Modern Languages according to the character and condition of the persons usually presenting themselves to be taught.

I. And first, of *little children*. It seems to be settled, that little children can be taught living languages easier than they can be taught anything else. The reason is, that it is the very vocation of their young minds to learn words. They have, indeed, done little during the short period of their existence, except to acquire the power of distinguishing objects and qualities, and of applying

to them the names which their native language has affixed to them. This power however, is so easily transferred to the acquisition of other living languages, that in Europe, where it is sometimes thought important to educate children to the free use of several, they are without difficulty taught to speak, read and write three or four without confounding them, from early infancy, merely by giving them nurses and attendants, who are natives of different countries. This method, of course, would not be pursued here. We have neither the means nor the motives for it. But it proves in the strongest manner, what the experience and observation of many among ourselves has confirmed, that much time is now lost in childhood or misapplied in instructions unsuited to its tender years, which might be successfully and pleasantly given to the acquisition of at least one living language.

The method of teaching however, should be no less skilfully and tenderly adapted to the age and circumstances of the pupil, than the pursuit itself. Of the Grammar, or the Dictionary, or any of the customary apparatus of formal instruction and recitation, there should be no thought. A child of six or seven years old can no more be made to comprehend the definition of an article or a verb, than he can be made to comprehend what is an abstract idea or a logarithm; but, if you will read several times over, to the same child, word by word, a clear translation of a very simple fable or story from the French or the Italian, or any other living language, making him follow you aloud step by step, and bringing the whole, by the simplicity of your explanations, fully down to the level of his comprehension, he will be able the next day so to translate it to you, in return, that he can not only give you the entire fable or story in its connexion, but the foreign word for every English one it contains, and the English for every foreign one, taken at random. We have a few books, and only a few, prepared to teach quite young children on this system. Bolmar's Edition of the Fables commonly called Perrin's, is one of them, well suited to its purpose, and none but those who have made the experiment can fully understand how easy it is for childhood to read and learn this book, and how much can thus be accomplished towards the final acquisition of the French language. Indeed, when a hundred pages have been thoroughly learnt in this way, not a few of the difficul-

ties of any modern language have been overcome; and yet this certainly can be accomplished and has been accomplished with children of six or seven years old, who yet did not feel, in any part of the process, that a task had been imposed on them.

In selecting books, however, from which to teach according to this method, one rule must be carefully followed. Take only such as, in their subjects and ideas, their manner and their tone, are *below* the age of the child to be taught; so that if the child you wish to instruct be seven years old and the language you have chosen be French, the books to be used should be such as are given to French children of four or five years old for their amusement. The reason is, that the child should have no difficulty to encounter but the mere difficulty of the language itself, and this will be found quite sufficient to make up for the difference in years, while, at the same time, the interest that might otherwise be wanting, is sustained by the instinctive curiosity to learn the meaning of new words, which belongs to the age, and the instinctive pleasure of discovery and progress which always belongs to our nature, and is then fresh and eager. Of course, books of this kind are easily procured; for no country that has a literature is without books for its children. In French, which is the language where we should most need them, they are abundant; and many of them have been reprinted in England, and some in this country. Besides these, Berquin's Child's Friend, many of Lafontaine's Fables, and many of Madame Guizot's Tales, with other similar works, may be added, which, when explained and understood, are as interesting to our children as they are to those for whom they were written. How long this process should be continued, must depend on the judgment of the teacher; but as it is one that is both useful and amusing to the child, there is no reason, why it should not be carried very far. Certainly, it must not be given up, until the reading such books as are suited to his years, has become, without assistance from his instructor, as easy and pleasant as it had been with it.

This, too, is the period, when vocabularies and dialogues, like the Abbé Bossut's and those of Mad. de Genlis, can be used with great effect, because the extreme facility with which they are committed to memory in early youth, especially after some little progress has been made in reading, renders the whole exercise a plea-

sure and not a toil. Above all, this is the period for acquiring a just pronunciation, since the organs are now flexible, and permit that to be done easily, which, later, it is often impossible to do at all. Nor is this an unimportant part of the needful instruction. It is, to a language, what a costume is to an age or his physiognomy to an individual; and not a few of the characterstic differences between different languages are lost to him, who has no perception of their several inflexions and no familiarity or sympathy with the effects of that peculiar accent and intonation, in which resides so much of the power of poetical rhythm and measure, as well as of the grace and harmony of all polished style in prose.

When, however, the child has attained a reasonable facility in reading, we may venture to look for some assistance towards the Grammar and the Dictionary; — not, indeed, to compel him to learn his lessons by turning over leaves, which his young hands have not yet even the mechanical aptitude to do with much effect, and still less to endeavor to carry him through the purgatory of definitions in the accidence, and of rules and constructions and exceptions in the syntax, as if this were the only or even the efficient mode of obtaining the promised rewards beyond. Far from it. The grammar, at this age, can be used, with practical benefit, only for the forms contained in its accidence; but here something can be done, which will prove of permanent advantage. A child of eight or nine years old will learn, often with eagerness, and always without much effort, all the regular and irregular verbs; and that will in general prove to be the best grammar for this purpose, in which they are found spread out and developed in all their forms with the greatest distinctness. After having gone through with all the conjugations of the verbs, both regular and irregular, he can learn without difficulty the little there is to learn in most living languages of the inflexions of the articles, pronouns and adjectives, together with the lists of the indeclinable parts of speech. From this time, too, he can begin to use the dictionary; and though the reading lesson should still be translated to him by his teacher, as well as afterwards translated to the teacher by the pupil, still the child will be able gradually to advance with less and less assistance, and will soon read books suited to his age without other help than such as his own means will afford him.

Let us now suppose the pupil, whose course we have thus far followed, to be thirteen or fourteen years old, and to have learnt the French, if that be the language he has pursued, as nearly as circumstances would permit, in the same way he has learnt his own language; let us suppose him to have read a considerable number of children's books in French, such as he would have read if he had been a French boy, and, for the same reason, — for his amusement; let us suppose him, by means of his vocabularies and dialogues, and by the help of his teacher, to have made that little progress in speaking to which every one who learns a living language in a natural method is instinctively impelled; — let us suppose him, in short, at the age of thirteen or fourteen to have acquired such a use of the language as is suited to his opportunities, his years, and the limited range of his ideas and faculties; — what is next to be done? Undoubtedly, the next thing is, to explain to him the reasons and rules for what he has already learnt. It is in short, the period for teaching the Grammar; — not perhaps, the whole of it, at first, but such parts as can be made intelligible and useful; and afterwards in proportion as the faculties are developed, the remainder. This, he could not probably do, even now, with ease or thoroughness if he were embarrassed with the additional difficulties of learning the vocabulary; but, having gone through this, and having little else, on which he is required to fasten his attention, it is become a pleasure to him to learn the reasons, rules and explanation of what, under other aspects, is already familiar to him. In this way, he can be carried, first through the definitions and written exercises in the accidence, with a careful review of all the forms it contains; and afterwards through the syntax, committing the examples perfectly to memory, though not learning the rules by heart; but from this period, so long as he continues a student of the language, he should continue to study its grammar, either reading or writing its exercises into the foreign language, or pursuing the more difficult portions relating to its idiomatic construction.

This course, beginning in childhood and ending in manhood, is, no doubt, the longest, but it will be found the least tedious to the pupil of any, and at the same time prove the most thorough and effectual. It is the longest, because, beginning with such portions

of the vocabulary, reading, and pronunciation as can never be so well learnt as in the earliest and freshest years of life, it is necessary to wait for the natural growth of the mind before the more difficult parts can be ventured upon, and not to leave it entirely until the maturity of the faculties permits, not merely the words of the higher and more difficult authors to be comprehended, but their thoughts and characteristics to be felt and enjoyed. It is not tedious to the pupil, because from the first to the last, he need not have and ought not to have, anything prescribed to him which could reasonably be felt as a task. And, finally, there is much less consumption of valuable and useful time by it, than by any other, because what is given to it at the earliest period is taken from no occupation so important, and from nothing which can be so well learnt, and what is given to it later should be taken generally from the hours allotted to amusement. Permit me to add, that, from some personal experience and much observation of the application of this method, I have no doubt, it is the best usually within our reach; and that a person who should have gone through with the course of instruction it implies, would, if ever thrown into a country where it should be important for him, be able, in a very short time, to speak with ease and success the language he should thus have acquired.

II. Having thus spoken of the method of teaching a living language to those who have an opportunity of beginning to learn it in childhood, we naturally next consider a class, which, in this country is much larger; — and indeed the largest, consisting of those *who enter on the rudiments of their instruction, between the ages of thirteen or fourteen, and seventeen or eighteen.* And here too, there seems little reason to doubt that the Grammar should not, at the outset, be made so prominent, as it has generally been made; nor its embarrassing and difficult portions be so regularly gone through and pressed upon the young minds of this class of pupils. On the contrary, let an easy reading book, which will be amusing to their age, like one of Mad. Guizot's stories in French; or Soave's Novelle in Italian; or the Brother Grimm's Popular Tales in German, be given to them at once; — let the teacher carefully translate a small portion at the first lesson explaining the meaning

of each individual word several times over; — and let the pronunciation and the force of the phrases or idioms be particularly attended to. At the same lesson, let them have a verb or part of a verb to learn by heart, and, when the recitation comes, let it be repeated, and let the translation given out be so made that the English can be rendered for each foreign word, and the foreign word for each English one, when separated from their connexions and put out promiscuously. Let this exercise be pursued until all the verbs regular and irregular have been thoroughly learnt, with the inflexions of the articles, nouns, pronouns and adjectives, so far as the mere forms in the accidence are concerned. Then, while still pursuing the same system of translating some pleasant book, let the teacher begin the Grammar regularly explaining the definitions, reviewing the forms, and reading a short English Exercise into the language to be learnt, that, the next time the pupils may read it to him; — and let this process of reading and translating both ways, accompanied with regular lessons in the accidence to be committed to memory, be continued until a common narrative book, like Voltaire's Louis XIV., or Schiller's Thirty Year's War, can be read with little difficulty. After this, but as late as may be found convenient, the Syntax with its examples, which are to be learnt by heart, and its exercises, which are to be written or read, should be gone through with great care, at least twice, in lessons of moderate length and with much previous explanation from the instructor, while at the same time, the pupils may read the highest authors, which their faculties are sufficiently developed to comprehend — Goethe, Molière, or Cervantes — if their years and tastes permit them to enjoy the first order of imaginative genius.

But here, perhaps, it is needful to stop a moment, and consider *what kind of a Grammar* will be most appropriate to pupils of this class, and, indeed, all classes except the very youngest, and what should be the *general character of the Books given them to read.*

As to the *Grammar*, two common defects should be guarded against. The first of these is, that it should not like Levizac's French Grammar and Noehden's German one, contain either philosophical discussions of the principles of Language in general,

or even of the particular language to which it is devoted, because such inquiries are suited only to persons of mature minds, and, except in very rare cases, useful only to those, to whom the language is native; while, to *all* learners of the rudiments, they are particularly embarrassing, and to learners *of the usual age*, entirely incomprehensible. — The other defect is, the confusion of the accidence and syntax. It is not, perhaps, easy to keep them entirely apart, and, in many very good grammars there is occasionally a want of exactness in observing the distinctions between them; but there is one in quite common use — I mean Wanostrocht's French Grammar, — in which this confusion is assumed as the very plan of the work; so that whatever relates to the articles, for instance, whether form or construction, accidence or syntax, is crowded together under that head, and finished before proceeding to the noun, pronoun, &c, which, in their respective turns, are exhibited and despatched in the same manner. And yet nothing seems of more obvious importance than to keep carefully apart whatever relates to learning the forms of a language, from what relates to its construction, since either is troublesome enough in itself, while the difficulties of each being quite different, those of the accidence arising chiefly from the memory and those of the syntax from the judgment, the union of the two and the confounding of both must constitute and does in fact constitute an embarrassment altogether gratuitous and extremely perplexing.

Supposing, then, these two considerable defects to be avoided; the qualities most important in a good grammar, to learn a living language are; — First, that the definitions and explanations in the accidence and the rules in the syntax be short and clear. Second, that the forms in the accidence be exhibited broadly and plainly; as for instance, that the nouns, pronouns, and adjectives be declined at full length in all their forms, and especially that the verbs both regular and irregular be conjugated and developed in the amplest manner; — some of them both negatively, interrogatively, and negatively-interrogatively. Third, that after each definition and form, and after each rule, there be always several, and generally a considerable number of examples to illustrate it; — short, perspicuous, and as much as possible in an idiomatic and conversational

style, so that when committed to memory, which they always should be, progress may be made, not merely in the grammar but also in the characteristic peculiarities of the language. Fourth, that, after the examples, should follow Exercises in English, to be written or read in the foreign language, and which, like the examples, should be short and conversational, with a translation of the more difficult words and phrases at the bottom, where they can be covered when recited. And lastly, at the end of the whole grammar, it is convenient to have a few easy fables and other lessons with which to begin reading, and a considerable number of dialogues on the most familiar subjects of conversation, such as are best found in the Manual of Mad. de Genlis, because she took them down as they happened to be held in her presence, and afterward caused them to be translated into the principal languages of Europe. — A Grammar like this, it may be added, should be short. For the French or the German, it would, perhaps, be expedient to extend it to three hundred or three hundred and fifty pages, in duodecimo; but for either of the other languages usually taught, half that number is abundant.

As to the *books to be used or read* it is possible to make only one or two quite general remarks, since the selection must be governed by circumstances not always within the control of either the teacher or the pupil. It is not well, however, I think, to use collections and extract-books; or, if they cannot be avoided, it is important to take only such as contain each work of an author complete when they give any part of it. Perhaps, however, in many cases, it may be expedient or inevitable to begin with such books; but it can rarely be advisable to go further. They are uninteresting to the learner; they give no proper knowledge, but rather a false impression of the literature they profess to represent; and they are not well adapted to teach even the language itself, because, by changing the manner and style of writing so often, an opportunity is not afforded to become familiar and thorough in any one. It is as if we should attempt to instruct a foreigner in our own language and literature out of two or three of the selections for reading and speaking used in our schools, which, though excellent in the place for which they are designed, wouldbe en tirely unsuited to purposes

like this. On all accounts, therefore, it is best to begin, at once, with a good book of the simplest kind like Lessings's Fables in German, or one of Mad. Guizot's Tales in French, and go on afterwards with agreeable and interesting narratives or dramas, like Voltaire's Charles XII. in French, and Moratins's Comedies in Spanish, which should be continued until the language has become really easy. When this point has been attained, there is no reason, except such as may be found in the age, the tastes and the means of the pupils, which should prevent them from being carried through any of the authors of established reputation.*

III. Having gone through with the modes of instruction for little children and youth, there remains to be considered only one class of learners, and that is one whose numbers are everywhere constantly diminishing — I mean, *those who have already reached the full maturity of their minds;* and, in years, are arrived at least, as far as manhood. With them, except in a few rare and fortunate instances, there is no easy method. The age of a quick and eager memory is gone by; and the reasoning faculties being fully developed choose rather to learn by the analysis of particulars from generals, than by the induction of generals from particulars. With them, therefore, the grammar and its rules must be more important at the outset, and more relied upon during the whole course, than with either of the other classes. They must begin with a strict study of it, and go warily through its definitions and rules, as well as through it forms. It cannot be expected of them to commit to memory the declensions and conjugations, or the examples, with the accuracy any more than with the ease of their earlier years; but still there is no shorter or pleasanter road left to them to attain their object, and if the examples are prepared with proper skill and have an ultimate reference to conversation, they will be found as immediately useful as any exercise such pupils can undertake. From the first lesson they learn, however, they will find it both expedient and agreeable to begin to translate into English; to make the most resolute efforts to accommodate their organs to the pro-

* Lest, however, it should seem, that I have proposed an expensive course, I will add, that all the books it implies, need not cost in any one of the modern languages usually taught, more than from ten to twelve or fifteen dollars.

nunciation; and, as soon as possible, they should begin to write the language and write it constantly and a great deal. But, during the whole course of their pursuit, their main reliance must be on the grammar, and on such books as they may be able to read with interest and pleasure.

We have now considered, as far as the limits of such a discourse will permit, the different classes of persons who are to be taught, and the different methods that have seemed, from experience, suitable to be used with each: — never forgetting, however, that in practice, there is no sharp and exact division of classes, by age, but that one is constantly running into another, and that the pupils who would fall under each may often need some modification of the system of teaching proposed for the whole, in order to accommodate it to their respective characters and wants. The divisions, however, that we have gone through, have often been adopted in practice, sometimes because they were thought judicious; but often, perhaps, because they seemed natural or inevitable; while, at the same time, the general methods of instruction recommended have had the sanction of much experience and success, though rather in other countries than in our own. It only remains, therefore, to say a few words on two points immediately connected with the whole subject.

The first is, the *general mode of teaching* all classes and all individuals. Let the instructor bring his mind as much as possible into contact with that of his pupil, so as to feel precisely and fully the nature of the obstacles and difficulties which are from day to day encountered; and then let him remove them all, as far as may be in his power, by personal explanation and assistance. For it is a great mistake to suppose, that the learning a living language, which nature teaches every day so faithfully, without an effort on the part of her scholars, can be made too easy. On the contrary, let the teacher facilitate the progress of his pupils by all the means in his power, explaining everything to them, translating their lessons for them, and serving them, as far as he can, instead of Grammar, Dictionary and Commentary; only requiring, that the pupils, on their side, shall faithfully retain what has been thus sedulously imparted to them, and be able afterwards correctly and understand-

ingly to recite or explain it. Above all, let not the recitations themselves, become merely dry and hard examinations in order to ascertain whether prescribed tasks have been accomplished; but let them be seized upon as the golden opportunities for teaching, — as the fortunate moments when the seed will fall on good ground because the pupils will so eagerly and gratefully receive whatever of explanation and assistance may be given them. Let, therefore, the teacher always go first and lead, instead of following to drive his pupils; and especially let him shed all the light of his own knowledge upon the path, which is so familiar and easy to *him*, but which, to *them* is new and full of difficulties. Thus, let him explain and illustrate the rules until it is certain they are comprehended before they are studied. Let him translate beforehand the exercises that are to be prepared, so that they may not only be well done, but done easily and pleasantly. And from time to time, let him read into somewhat free and choice English large portions of the book his pupils may happen to be studying, that they may themselves acquire the power of selecting appropriate words and phrases, and learn, what they can in no other way learn so easily or so well, the corresponding idioms and respective peculiarities of the two languages. In short, let them be *taught*, as well as *required to learn*, and let their recitations, instead of being merely strict examinations become pleasant opportunities for acquiring further knowledge and making easier progress.

The other circumstance to which I referred, is, *the direction to be given to all studies in a living language* in order to insure the greatest amount of success; — the point, I mean, to be set before both teacher and pupil, not indeed, as the one always or even generally to be attained, but as the one, which may be most safely relied upon to determine their general course, and towards which whatever progress they may make, should be directed. This point is, the speaking the language; and the reason why it should mainly govern our course in attempting to learn it is, that, what is idiomatic and peculiar to it, its particles and its phrases, is entirely the result of its use as a spoken language; that in these particles and idioms reside always the difficulties, as well as the essential genius and power of every language; and, that, therefore, as we advance

in acquiring its vocabulary from reading and its construction from the accidence and syntax, we should still so select the books we use and the grammar we study, as to be continually making progress in our knowledge of the spoken language and its idiomatic difficulties.

But, it may be answered, "we never intend to speak it; — we only wish to learn to read it, that we may have free access to its written treasures and especially its classic authors; — we do not propose to visit foreign countries, but we wish to read and enjoy at home, Schiller, and Molière, Cervantes, and Dante." Be it so. But what are the chief difficulties in the way of this undertaking, and what is there in these authors that makes it necessary they should be read in the original rather than in translations? Is it not precisely those felicities and peculiarities of idiom and inflexion, which are the result of the formation and use of the language itself as a spoken one; as the vehicle of the feelings and passions of men in the sudden turns of life, its changes and its adventures? Consider, too, who these leading authors are; to what class they belong; and what constitute their characteristic claims, attractions and value. They are precisely the authors in whom the peculiar genius of their respective languages stands forth in the boldest relief; — those in whom the distinctive features of the national temper and character are most prominent; — those, in short, who come to us fresh from the feelings and attributes of the mass of the people they represent, and full of the peculiarities of thought, idiom, and expression which separate that people from all others, and constitute them a distinct portion of mankind. That such authors cannot be understood without some knowledge of the popular feeling and colloquial idiom, with which their minds have been nourished and of which their works are full, hardly needs to be urged or made more apparent. Take the case of the great Masters in our own English. Can any one, who is entirely ignorant of the phraseology, inflexions, and shadings of our spoken language, comprehend the picturesque but homely directness of Chaucer, or the exquisite delicacy of Spenser, or the unapproached power of nature in Shakspeare? Nay, can such a one know in what is hidden the idiomatic simplicity of Addison or Cowper; or can he even read

his own contemporaries, Miss Edgeworth or Sir Walter Scott? Nor is it in any respect different in the other living languages, which have succeeded in vindicating for their authors a place among the classical literature of the world. The great masters, in all ages and in all nations, have built on the same foundations and can be successfully approached only in one way. For who can pretend to understand or estimate the untold riches of the elder Drama, of Spain or of its early romantic and popular Ballads; or who will venture to open Don Quixote, who knows nothing of the peculiarities of the Spanish as a spoken tongue? Or who can draw near to Goethe and Schiller and Tieck in the spirit in which their power is revealed, unless he feels in some degree that he is holding intercourse with contemporaries who speak to him, as it were, with living voices? Or who can comprehend the quaint simplicity of Lafontaine, or the rich humor and genuine comic power of Molière, if he have never turned his thoughts towards that conversational idiom, to which each resorted for whatever is peculiar both in his beauty and his power. Or, finally, — to take instances, which are the more striking because they seem at first the least susceptible of such application — who can be aware either of the sublimity or the tenderness of Dante, unless he studies that unwritten language from which *alone* this first and greatest master of Italian Poetry could draw his materials or his inspiration; or who else can imagine himself able to comprehend Alfieri, who, casting aside the accumulated literature of five centuries, went constantly, as he himself tells us, to the thronged market place of Florence, there to gather from the lips of the peasantry and the populace those phrases and inflexions, which afterwards thrilled with horror the audiences of Tuscany and Lombardy, and now leave his own great name to close up that long and bright series, at the head of which stands the solemn form of Dante himself. Indeed, on this subject, there is no delusion, no mistake. We *know* that we can none of us read the great Masters in any foreign literature, or enjoy them like natives, because we cannot speak their language like natives. For, the characteristic peculiarities, and essential beauty and power of their gifted minds are concealed in those idiomatic phrases, those unobtrusive particles, those racy combinations

which, as they were first produced by the prompt eloquence and passions of immediate intercourse, can be comprehended and felt only by those who seek them in the sources from which they flow; so that, other things being equal, *he* will always be found best able to read and enjoy the great writers in a foreign language, who, in studying it, — whether his progress have been little or much — has never ceased to remember that it is a living and a spoken tongue.

Gentlemen; The general views, so imperfectly developed in this discussion are not new. They coincide with the suggestions made by Lord Bacon, and with the systems pursued and recommended by Cardinal Wolsey and Roger Ascham, by Milton and Locke, and by the vast majority of skilful teachers in those parts of Europe, where Education at the present time, is the best conducted and advanced the furthest. The substance of the whole is, that instruction, to be as effectual as it ought to be, should be communicated not only by books, which are indeed the great means of acquisition, and facilitate it more than all others united, but also by constant and familiar and laborious explanation from the teacher, skilfully adapted to the age, character and progress of his pupil. Before the invention of printing, and, indeed, for some time afterwards, while books were still rare, this oral instruction was necessarily almost the only mode of communicating knowledge not merely of the living languages, but, in general, of all other subjects. Gradually, however, as books were multiplied and especially when they became so much improved, they began to be trusted too much with the business of Education, until, in many branches, and certainly in that of the living languages, results were claimed from them, which it is quite impossible they should produce. In our own country this error was, at one time, all but universal; and even now, I fear, is common. But it is acknowledged by some, perhaps by many; and, is in the sure way to be eradicated by the success of those teachers, who rely not merely upon the dead letter of books, but also upon that living knowledge which is imparted only by living explanation; — nay, which is communicated by the very tones of the voice and the expression of the countenance with a vivacity and effect never found or felt by the most eager lover of acquisition in a cold and silent page.

LECTURE II.

ON

SOME OF THE DISEASES

OF

A LITERARY LIFE.

BY GEORGE HAYWARD, M. D.

DISEASES OF A LITERARY LIFE.

The subject of education is of the deepest importance to our countrymen. The government under which we live is strictly a government of popular opinion, and if great and untiring efforts be not made to keep the public mind duly enlightened, all our valuable institutions will be swept away. If our citizens should become indifferent to the cause of popular education, the tone of public morals would be lowered, the reverence for religion would decay, and our country would soon be distracted with lawless anarchy, or fall an easy prey to some ambitious and popular leader. No one therefore who loves his country, and duly appreciates the inestimable privileges we now enjoy can be indifferent on this point.

The deep interest which I feel in the subject, and my readiness to co-operate with you in this great cause, have induced me to accept the invitation with which I have been honored by your committee; at the same time I can declare with the utmost sincerity, that it is with extreme diffidence that I appear in this place on this occasion. No one will be surprised at this, who calls to mind the learning and acquirements of the * two individuals who have addressed you on the former occasions on physical education, the character of the audience before whom I appear, and the extent and importance of the topic on which I am to speak.

But I have yielded my own opinion to that of others whom I am accustomed to respect, and have been induced to comply with the request to offer some observations on physical education be-

* John C. Warren, M. D., and James Jackson, M. D.

cause I was anxious to show the interest I felt in your institution, though I was at the same time confident that there were many others better qualified for the task.

It has been truly said that man is the creature of education. His moral, intellectual and physical powers are all susceptible of a high degree of improvement. At birth he is the most feeble and helpless of animals, and at a period when the lower orders of the creation, by the development of their bodily powers and that peculiar faculty which we call instinct, are enabled to provide for their wants, man is dependent on those around him; but by a proper cultivation of his faculties he becomes associated with a higher order of beings. It is the province of others to speak of his moral and intellectual culture; my remarks will be confined to his physical education, and I shall occupy the time allotted to me in saying something of those diseases of the body which are the most likely to be induced by the exertion of the intellectual faculties. I wish not to have it understood that any diseases necessarily follow the cultivation of the mind; on the contrary I am convinced that this cultivation, if judiciously managed, promotes the health of the body. But it cannot be concealed, that in our country at least, literary men rarely attain a great age, and that not unfrequently during the greater part of their lives, they are subjected to severe and distressing disease. This is not a necessary consequence of their pursuits; there must therefore be either no regard to system in their mode of life, or there must be some radical error in the system which they adopt.

I shall probably be better understood in what I am going to say, if I offer a few general explanations in relation to the animal economy. The human body is composed of many distinct parts, which are destined to perform functions, all of which are more or less important to the preservation of life, and which have an intimate relation with and dependence on each other. These parts are called systems; a few of which I shall briefly notice.

One of the most important is the *nervous system.* This is composed of the brain, the spinal marrow and the nerves. The brain occupies the whole cavity of the skull; the spinal marrow, which is a continuation of the brain, is situated in a canal in the spinal

column, and the nerves go out from the brain and the spinal marrow to all parts of the body. The brain is the seat of perception, and the nerves are the agents by which it is connected with external objects. How this communication is effected is totally inexplicable; but physiology abounds with theories sufficiently wild and visionary on this subject. But our business is only with facts. The nerves have not all the same functions. Some are nerves of sense, others of sensation, others again of motion, and another class is destined to endow particular organs with the power of executing certain functions. The nerves of sense, with the exception of those of feeling, which are spread throughout the body, arise from the brain and are carefully protected from injury by passing through bony canals. But though these nerves are exquisitely sensible to their own peculiar stimulus, as the optic nerve to light, &c, they have not the power of imparting motion or ordinary sensibility to the organs to which they are distributed. If the gustatory nerve should be divided, the tongue would retain its power of motion and sensation, though the sense of taste would be lost; and it is well known that all the motions of the eye are independent of the optic nerve, and in a recent surgical operation, in which I had occasion to divide that nerve itself, the patient afterwards informed me that it gave him no severe or peculiar pain.

There are no less than twelve pairs of nerves sent off from the brain and thirty pairs from the spinal marrow. Those of the brain are distributed to the organs of sense, respiration and digestion, and two small nervous filaments go out from this organ, which seem to be the rudiment of a system of nerves which supplies nearly all those organs over whose action the will has no control.

The brain is evidently the instrument of the mind, and its derangement is followed by a disturbance of the intellectual faculties. If its functions are interrupted, either by injury done directly to the brain or through the medium of the nerves, the mind ceases to act. A slight compression or a powerful jar are frequently sufficient to suspend for a time the operations of the mental powers. So dependent are these powers on the organization of the brain for their healthy exercise, that many have supposed that the mind was nothing but matter exquisitely organized; and it

seems to be on this foundation that has been reared, the whole superstructure of what is familiarly known under the name of Phrenology. The teachers of this doctrine, as far as I understand them, maintain not only that the brain is the seat of the mind, but that the intellectual faculties, the moral powers and the animal propensities reside in different parts of it, and that these parts are more or less developed in proportion to the degree in which these properties are enjoyed by individuals, with a corresponding development of the skull, and that it is easy to discover by an examination of the skull, the extent to which these properties are possessed. The intellectual faculties are said to reside in the forepart of the brain, the moral powers are placed in the upper part of the centre, and the animal propensities at the base. And then we have charts of the skull on which are marked the precise situation of each of the various faculties and powers, though it must be confessed that the professors have not till of late been agreed as to the exact spot in which these different faculties reside.

Too many distinguished men however, have been the advocates of phrenology to allow me to speak lightly of it. But if it be maintained, that mind is the result of organization, and that its various faculties and powers are placed in different parts of the brain, which are exclusively assigned to them, I must say that the doctrine is not only fraught with dangerous consequences, but that it is at variance with facts familiar to almost every physician.

A belief that the intellectual character of men can be determined by an examination of the skull, will often lead to very erroneous and unjust conclusions, and may tend to discourage individuals, who may not happen to possess the external characters of great mental powers, from all efforts at improvement. But this would not be a substantial objection if the theory were well founded. Is the brain anything more than the instrument by which the mind operates? We know, that the brain may be wounded, extensively lacerated, and large portions of it, amounting to a quarter of the whole, actually removed, without impairing in the slightest degree the intellectual faculties. Abcesses and tumours of large size have often been found in the brains of individuals after death, who retained during life the full possession of their mental powers.

It has not unfrequently happened in wounds of the head, that the very organs of certain faculties, according to the phrenological system, have been removed, without impairing these faculties.

Though the mind is affected in most diseases of the brain, it does not necessarily decay with the decay of the body. It is not unfrequent, a few hours before dissolution, when the tongue is hardly able to give utterance, and the whole animal frame is wasted and worn out, to witness displays of intellectual power that would astonish at any time. The mind, acting with more freedom, soars higher, as if in anticipation of the disenthralled state on which it is about to enter.

It is true that the brain is the instrument by which the mind operates, and the more perfect the instrument, the more perfect will be the mental operations. But we know not in what this perfection consists. It cannot be in the mere size of the organ, as is frequently supposed; for this is contradicted by what we see in other animals. Nor is it in its resemblance to the human brain, for some of those animals in whom this organ resembles that of man most closely, are surpassed in sagacity by others in whom the resemblance is much less complete. We had better admit then with Buffon that "the soul, thought, and speech do not depend on the form or the organization of the body." It may be thought humiliating by some to acknowledge our ignorance, but it is better to do this than to fall into dangerous error.

I have however, already digressed too long to pursue this subject farther, and I will now proceed to notice some other parts of the animal economy, which are important, both from their connection with the vital functions and their liability to disease.

Among these the digestive apparatus holds an important place. The food during mastication becomes intimately mixed with the saliva, and is then conveyed by a powerful muscular action into the stomach. It is brought in this organ, by the agency chiefly of the gastric juice, a peculiar fluid which is secreted by the stomach, into a homogeneous mass. As soon as this mass enters the first intestine it comes in contact with a set of absorbent vessels, which, from the milky appearance of the fluid they contain are called lacteals. These vessels take up all that part which is adapted to nourish the

body, they then unite in a common trunk, which conveys this nutritious fluid into the blood vessels. But this fluid is not yet sufficiently assimilated to the blood to form a part of the circulating fluid, which is destined to convey nourishment to the whole body. How this purpose is effected will be seen by attending to the circulating and respiratory functions. The fluid received from the lacteals is poured into a vein, and is thence carried to the right side of the heart. In man the heart is a double organ, each part of which is the centre of a distinct circulation. That of the right side circulates the dark colored blood, which is returned by the veins from all parts of the body, after having parted with a portion of its nutritive principles; and with this blood, just before it enters the heart, is mixed the fluid which is furnished by digestion. This dark colored blood is sent by the right side of the heart to the lungs, and it there undergoes a change, either by parting with some noxious principle which it contains, or by absorbing something from the air, and it then becomes of a bright scarlet color. It is then returned to the left side of the heart by what are called the pulmonary veins, adapted to all the purposes of life, provided the lungs be in a healthy state.

The instant it enters the left side of the heart, it is sent by that organ with great force through the arteries to all parts of the body. It has been calculated that two ounces of blood are thrown out at each contraction of the heart, and as there are about seventy of these in a minute, nearly ten pounds of blood must consequently pass through the heart in that time; and as the whole blood in a male adult is estimated at twentyfive pounds, it follows that the whole blood of the body is circulated, in less than three minutes. This action of the heart continues during life; it cannot cease for a moment without producing death; so necessary is the stimulus of the red blood for the support of the vital functions.

The heart does not move with the same rapidity at all periods of life. In infancy its pulsations are more than one hundred in a minute, these gradually become less frequent, till in old age they rarely exceed sixty. During the early periods of life the body is continually increasing, and the circulation is more rapid to supply the demands which are made by the growth of the various organs.

A principle of decay seems to be implanted in the structure of the animal machine at birth. The circulating system, which is so essential to the continuance of life, is from its very activity doomed to destruction. So long as all the systems act in perfect harmony, the circulation goes on well; but the least interruption in one is sure to produce embarrassment in the others. In the early periods of life this is not sensibly felt, because the machine can at that time accommodate itself to great irregularities; but as we advance in age, the case is different. If the respiratory or digestive functions are disturbed, the circulation labors, the blood accumulates in some organs or vessels, producing immediately serious effects or laying the foundation for incurable disease.

But even without this, the heart and arteries cannot carry on the circulation for any length of time beyond the term of years usually allotted to man. The brain becomes gradually less sensible, the nervous energy is of course diminished, the heart consequently acts with less power in distributing the blood, and nutrition is less perfectly performed. The valves of the heart and the great vessels become thickened, and finally converted into a bony substance, and the vessels themselves lose their strength and power of resistance. The circulation is languid and carried on with great labor, nutrition in the different parts is not perfectly effected, and the whole functions of the animal body finally cease, without the occurrence of any disease. We see then in what light we should regard the pretensions of those who boast of discoveries, which will confer perpetual youth and immortality on man's bodily frame. Should not the strong marks of dissolution, which are impressed on it by its Creator, and the evidence which we have of the imperishable nature of the human mind, rather teach us to consider the present state as the beginning only of existence?

The functions of respiration are intimately connected with those of the circulation. These are performed by the windpipe and the lungs. The lungs are large organs, divided into three parts or lobes on the right side and into two on the left, and occupy the principal part of the cavity of the chest. They are composed almost entirely of air tubes and cells and blood-vessels. The blood in an impure state is brought from the right side of the heart and distributed

in numberless vessels throughout the lungs. In the act of inspiration the air is brought into the air cells and the blood is separated from the air by a delicate membrane only. The blood in health is immediately changed in color and properties, though it is not determined precisely how this change is effected or in what it consists. The air we breathe is composed of two different constituent principles, with a small mixture of a third. Soon after this discovery was made, and it is of modern date, it was thought that in the process of respiration the blood absorbed the oxygen or vital part of the air, and hence this red blood received the name of oxygenated blood. It is very certain that the air thrown out from the lungs is very different from that which is taken in, containing a much greater quantity of fixed air or carbonic acid gas. Some chemists have undertaken to show that all the oxygen, which is taken from the atmospheric air in respiration, is no more than what is contained in the fixed air which is discharged by the lungs, and that this air is formed in the process of respiration by the union of the oxygen of the air and the carbon which is given off by the blood in a volatile state. They assert therefore that the blood in respiration does not absorb oxygen from the air, but that it parts with a portion of its carbon, and that it would be more proper to say, that in this process the blood is decarbonized and not that it is oxygenated.

Without stopping to discuss the comparative merits of these theories, it must be acknowledged that the change produced in the blood in its passage through the lungs is essential to life. If it be completely suspended, even for a moment, death follows. When the air is prevented from entering the lungs, the circulation continues in them, but the blood undergoes no change, and is returned to the heart with the same color and qualities as before it entered the lungs. The instant this black blood is thrown by the left side of the heart to the brain, life ceases. Hence we understand the manner in which death is produced in drowning, hanging, and in entering places in which the air is unfit for respiration, as in wells and cisterns. In these cases death is not instantaneous, because some air finds access to the lungs, and in some cases of hanging, life is destroyed by a fracture of the spine and a consequent pressure on the spinal marrow. The Turkish punishment by the bow-string, which consists

in drawing a cord so tightly around the wind-pipe, as completely to prevent the entrance of the air to the lungs, produces instantaneous death.

It is evident I trust from what has been said, that the functions of the brain, stomach, heart and lungs, are essential to life, and it follows that when they are deranged or imperfectly performed, disease is the consequence. It is true also that they are the organs which are in most cases primarily affected in the disorders of literary men. In speaking of the diseases most likely to occur in connexion with a cultivation of the intellectual faculties, the only order which I shall observe will be that of time, that is, I shall describe them in the different periods in which they are the most liable to occur. Till the body has attained its full size, all its powers seem to be directed to its nutrition and growth. These powers bear a different relation therefore to each other at the different periods of life. Before the adult age, all the nutritive powers are in excess; the brain and nervous system, which give energy to the whole, are more developed in proportion in the child than in after life, and in consequence children are more liable to affections of the brain and nerves. Even cutting the teeth or overloading the stomach will not unfrequently produce in them violent and sometimes fatal convulsions, and there is a strong tendency in many of the diseases of childhood to terminate in dropsy of the brain. These facts should teach us, that the minds of children should be gradually developed, and that there is danger that the brain will suffer if they are early excited to action. Epilepsy and other affections of the brain, are known to be often the melancholy attendants on precocious childhood. The minds of children, under ordinary circumstances, are developed spontaneously at a period as early as is consistent with health, and it may well be doubted whether the premature display of intellect, which is sometimes witnessed in them, can compensate for the hazard which must necessarily accompany it.

A derangement of the digestive functions, in some of its forms, is among the most frequent and troublesome diseases which afflict literary men. It is most likely to occur between the ages of fifteen and thirtyfive, though no period of life is wholly exempt from it. There is, as we have already seen, a direct connection by means

of nerves between the brain and the stomach, and we know that a blow on the head is often followed by vomiting, and that a disordered stomach usually produces pain in the head. Various affections of the mind have a powerful influence over the digestive functions. Grief will not only destroy for a time the appetite for food, but will also interrupt and suspend the power of digesting it.

Under the name of Indigestion, or the more popular one of Dyspepsia, is included a great variety of morbid affections, which all agree in one particular, viz. that the stomach, whatever may be the cause, does not readily and with ease digest the food taken into it. This sometimes proceeds from the state of the brain, at others from that of the muscular coat of the stomach; at one time the secretion by which digestion is effected, is imperfect, deficient in quantity or of a quality not adapted to the purpose for which it was intended. It not unfrequently happens that the lining coat of the stomach is in a state of low inflammation, which sometimes terminates in serious and incurable affections of the organ; and again all the symptoms of dyspepsia may arise from a disordered state of the liver, which acts sympathetically on the stomach. If this view of the subject be correct, it must be perceived, that the same means cannot be adapted to all cases of dyspepsia, and that those who pretend that they possess a remedy suited to every individual laboring under the disease, must either deceive themselves or be willing to deceive others. It is not necessary to be acquainted with medical science to know, that what would be beneficial in inflammation would do mischief in debility and want of action.

But though this enfeebled state of the stomach is often an attendent on a literary life, it is by no means a necessary consequence of it. Few men, certainly in this country, are injured by too much study; there are none among us who devote more hours to mental labor, than is compatible with health. The difficulty arises rather from a sudden change of habits, and a neglect of those means which are essential to a sound state of the body. Our students, the moment they become so, are too apt to abandon exercise; confine themselves too long in hot and perhaps ill-ventilated apartments; place no restraint on their appetite for food, which is usually as great in those who lead a sedentary life, as in those who labor daily many

hours in the open air, and in addition to all this, indulge themselves not unfrequently both in smoking and chewing tobacco, and then if the stomach should flag and seem unable to accomplish the task that is required of it, the whole difficulty is referred to studious habits and mental labor, while all the other circumstances which have been named, and which no doubt are the real cause, are entirely overlooked.

Another trouble, and one which is intimately connected with the derangements of which I have just been speaking, is frequently met with in professional men, I allude to a disturbance in the functions of the liver. This most frequently occurs in those individuals, who in addition to intellectual labor, are in situations of great responsibility, and the disease is perhaps more often seen among the clergy than any other class of society.

The liver, whose office it is to secrete the bile, is the largest gland in the body. But unlike other glands, it is not supplied with the arterial or pure blood for this secretion; on the contrary, the bile is secreted from the venous or dark-colored blood, which is returning to the heart for the purpose of undergoing the change which is effected in it by the lungs. One of the objects of this secretion therefore seems to be to rid the blood of a portion of its impurity, and the bile may be regarded as an excrementitious fluid. If the liver fail to perform its office or if there be any obstruction in the passage of the bile to the intestines, the blood is impure, and the effect of this is felt by no part of the system more sensibly than the brain; and it is perhaps fair to conclude that the brain may have some influence in producing this state of the liver. At any rate we know, that in all those morbid affections, which arise from a disordered state of the liver, whether it be only a derangement of its functions, or whether the organ itself be actually diseased, the mind is sensibly affected. This remarkable sympathy did not escape the observation of the ancients; they attributed nearly all cases of mental disease to a derangement of the abdominal organs, and the term which is employed to denote one species of this disease, melancholy, is derived from two Greek words meaning black bile.

This disordered state of the liver is usually attended with a tor-

pid state of the whole alimentary canal, a great depression of spirits, a general lassitude and an indisposition to bodily and mental effort. It must be overcome at an early period, or it will prove almost unmanageable. It sometimes requires great sacrifices on the part of the patient for its removal. Change of scene, change of habit, change of diet and sometimes even change of occupation, must be made before it can be cured.

The next in frequency to the diseases of the digestive organs are those of the lungs, and they are unfortunately for the most part of a more severe and alarming character. Though the respiratory apparatus is often deranged, the only wonder with those who are acquainted with its structure and functions is, that it is able to keep in order as long as it does. The lungs are of the most delicate organization, composed almost entirely of air vessels and cells and blood-vessels, and covered by a membrane of the finest and most attenuated texture, and this membrane is every moment of our lives, in contact with the atmospheric air, which is not unfrequently loaded with foreign substances of a highly acrid and deleterious nature. Hence the lungs are oftentimes disturbed and irritated; but if the rest of the system be healthy, the equilibrium is soon restored, and the organs regain their wonted activity. If on the other hand the functions of the other parts are imperfectly performed, if there be a general torpor and want of action throughout the system, an accumulation of blood takes place in the respiratory organs, and it sometimes lays the foundation for incurable disease, though it is frequently thrown off by that conservative principle which seems to preside over the animal economy. But if instead of being removed by the efforts of nature or the interference of art, this derangement is suffered to continue, it increases on every slight occasion, till a violent hæmorrhage ensues to relieve the crowded organs. And this bleeding at the lungs is one of the most common diseases of literary men. Their habits of life are well calculated to produce this. Their want of active exercise, which prevents the circulation from having that vigor so essential to its well being; their long confinement in close rooms, breathing an atmosphere not the best calculated to impart energy to the system, and the quantity of food which they take, usually much more than they require with their limited

exercise, all seem to predispose them to the disease in question. The irregularity of their habits too, both as to sleep and exercise, is not to be overlooked in estimating the influence of the causes which produce hæmorrhage of the lungs. This disease, though alarming, is by no means always necessarily fatal. If it be properly treated at the time of its occurrence, and the patient afterwards adopt an entire change as to diet, regime and exercise, if there had been any error in these particulars before, it may never again recur, unless there should happen to be some strong constitutional predisposition to it. When this is the case, before recovery from one attack is complete, another occurs, and the patient at length sinks into a confirmed pulmonary consumption. This is one of the most frequent terminations of bleeding at the lungs, when that disease has a fatal issue, though it has happened in some rare cases, that the primary disease has been so violent in its attack, that the system has sunk under it.

But though consumption may arise in this way, it is unfortunately far from being the only mode in which it originates. It is the great scourge of our country, and sweeps off annually more victims than any other disease. It delights too in "a shining mark," and selects the young, the blooming and the intellectual. Its attacks are usually so insidious that it has made sure of its victim, before he is aware of the blow. A slight cough, which almost escapes notice, is for a time perhaps the only symptom of a malady that is sapping the constitution; this is followed by slight chills which are succeeded by flushes of heat, recurring daily; a general lassitude and indisposition to action are soon perceived, and before long, night sweats and hectic fever set in as the melancholy precursors of the fatal termination, which will not long be postponed.

The frequency of this disease in the United States may be in part owing to the great and sudden changes of weather, which occur in some parts of the country, and which have a baneful influence in all affections of the pulmonary organs. A change, essential to life, as has been before observed, is effected by the lungs in the properties of the blood, and it is certain that the skin performs to some extent an office of a similar character. When therefore the heat of the body is suddenly reduced, the blood deserts the sur-

face and circulates more through the internal organs, and the skin consequently affords but little aid to the lungs. To persons of vigorous health, this is of no consequence; but the case is altogether different with those of feeble lungs, and a violent hæmorrhage has sometimes been produced merely by a sudden transition from heat to cold, in persons apparently in good health. Every physician is aware of the advantage of a uniform temperature in all cases of pulmonary disease. It is desirable that the lungs should have as little as possible to do, and it is important therefore to invite the blood to the surface by a steady and agreeable warmth. The changes produced in the appearance of patients laboring under consumption, by the changes in the temperature of the air, are very remarkable. While the atmosphere is mild and warm, the countenance and the whole surface of the body are of a natural healthy color; but a sudden reduction of temperature throws an increased volume of blood to the lungs, which are feeble and diseased, they are unable to effect completely the necessary change, dark colored blood is consequently returned to the heart, and thence sent to all parts of the body, giving the countenance a livid hue.

This view of the subject affords perhaps the best explanation of the advantages to be derived from sea-voyages in pulmonary disease. The temperature of the ocean is nearly uniform at all seasons of the year, and the air at sea is of an agreeable warmth and subject to but slight variations. The lungs perform their functions with more ease under such circumstances, than when subjected to great irregularity in the quantity of the blood sent to them, which is the uniform effect of great and sudden vicissitudes of temperature.

Advantages however are not always derived from sea voyages in pulmonary diseases; partly because the voyage was not of sufficient length, or because the climate of the country to which the patient was sent was not adapted to his case, but more because the voyage was not undertaken at an earlier period. But little benefit can be looked for, when there is an organic affection of the lungs.

We can understand too, in this way, of viewing the connexion between the functions of the skin and those of the lungs, the ad-

vantages that may be derived in our own climate by artificial hybernation, as it has been called, of consumptive patients, that is, of confining them during the winter to a room kept at all times at an uniform temperature. There is more reason to believe however, that patients lose nearly as much by the want of exercise, when subjected to this process, as they can possibly gain in any other way.

At a period of life somewhat later than that at which pulmonary affections are most likely to occur in literary men, diseases of another organ, the brain, are not unfrequently met with. Apoplexy and palsy, the two most important, are the only ones that I shall notice. Apoplexy, though its seat is in the brain, may arise from the state of that organ, or that of the stomach, or that of the circulating system. It is a state of mental stupor and bodily inaction, arising from pressure on the cerebral organ. Sometimes the brain is so much weakened by great mental efforts, made without proper attention to bodily exercise, that it is unable to bear the ordinary circulation of blood through it. At others, the stomach is overloaded and cannot digest the food that is conveyed into it. This in some cases is sufficient, if immediate relief be not obtained, to produce such powerful effects on the brain, as will terminate in apoplexy. And finally the exciting cause of the disease seems occasionally to be owing to the state of the circulating system; though it can hardly be supposed that this alone would be sufficient to produce it, if the brain were not already predisposed to it. At all times a large portion of the whole blood of the body circulates in the brain, and sometimes accumulates there in the veins and sinuses, producing directly compression, or leading to an effusion of water. At other times the blood is carried there with such force, that some vessel gives way, blood is poured out, the brain is compressed, and the patient becomes apoplectic.

Palsy usually occurs at a later period of life than apoplexy. It seems to be owing to a deficiency of action in the brain and nervous system; it is sometimes universal and at others partial. Frequently one side of the body only is affected, sometimes the lower half is paralyzed, and at other times it is confined to particular limbs.

There is in this disease the same loss of muscular power to a certain extent, as in apoplexy, but without the same disposition to sleep and mental torpor. It does not appear to be owing to congestion in the brain or compression of that organ, but rather to a want of energy. Though the patient is not torpid, yet if the affection be at all severe, the mind is usually affected in a greater or less degree, and if there should be partial recovery by the efforts of art or the powers of nature, there is always reason to apprehend another attack. This remark, however, does not apply to that species of paralysis which affects a single nerve only. It is not uncommon to see this affection in the nerve which supplies the muscles of the face; it appears to have no connexion with the brain, it is in all respects a local disease, and though the power of motion is not always recovered, no other inconvenience remains.

The circulating system is not exempt from disease. The heart and large arteries, not unfrequently towards the close of life are so much distended as to impede and for a time interrupt their functions. These diseases however are by no means peculiar to literary men, though I am inclined to believe that they are more subject to them than those individuals who lead a less sedentary life, and who labor or takes more active exercise in the open air. At any rate it is certain, that there is an intimate connexion between this class of diseases and the passions of the mind. They become invariably more frequent, it is said, in periods of great public interest and excitement, and numerous cases of the kind occurred among the distinguished actors in the French Revolution.

I have thus noticed in a very brief and imperfect manner some of the principal diseases of literary men. This is not the place to say anything of the remedies, but I must ask your indulgence a little longer, while I offer a few words on the subject of prevention. Everything on this point may be summed up in two words, temperance and exercise. By temperance I do not mean abstinence from distilled spirit. The good sense of our community has already decided, that ardent spirits are never required by any individual in health, and that they should be administered in disease, like other powerful remediate agents only by skilful hands. To the correctness

of this decision I cordially add my testimony; daily experience teaches me that the use of alcohol not only swells our bills of mortality to a frightful size, but renders complicated and unmanageable diseases which would otherwise be under the control of art.

By temperance, when addressing a body of literary and professional men, I mean moderation as to the time allotted to sleep and study, moderation in exercise, regimen and diet, particularly in the quantity of food. The accommodating power of the digestive organs is such, that they can adapt themselves to almost any kind of nutritive substance and assimilate it to the body, without any violent effort. The quality of the food, if it be not actually deleterious, does not produce much inconvenience, so great is the solvent power of the secretion of the stomach. But when the quantity is daily more than the wants of the system require, a powerful effort is necessary for digestion; during this process, the other functions of the body are less perfectly performed than usual; the whole surface becomes cold, there is a general lassitude and indisposition to action, with a strong tendency to sleep. Nature thus by a powerful effort and concentration of her energies on one point, at length succeeds, and the system resumes its wonted activity. But if this is to be daily repeated, disease must inevitably ensue. The stomach may be excited to action a little longer by artificial means; condiments of various kinds, alcohol and wine are often resorted to, but they only increase the debility which is sure to follow. At length the stomach loses its action entirely, or a sudden stroke of apoplexy follows a hearty meal, or the liver becomes incurably diseased, with dropsy and its attendant evils, or perhaps the heart and great vessels become so enlarged as to cut off all hope of relief.

I said that the quality of the food was of less consequence than the quantity, but I did not mean that it was of no consequence. It is desirable that it should be simple and nutritious; such as is easily digested, and every individual's own experience is the best guide on this point. In fine, it is important that the food taken should be in such quantity and of such a quality that it can be digested without disturbing the other functions of the body; without rendering the mind torpid and the body inactive.

Exercise, to be of the greatest possible use, should be taken daily and in the open air. Passive exercise, such as sailing or riding in easy carriages, is best adapted to invalids, who are unable to take a more active kind. To them it is valuable, and the importance of remaining long in the open air seems not yet to be generally appreciated. Active exercise, such as walking and riding on horseback, is what is required to preserve the health of those who lead a literary and sedentary life, while passive exercise is adapted to those who are in pursuit of it. Walking is perhaps on the whole best calculated for students, for what is lost by the length of time necessary to obtain sufficient exercise, is more than compensated for by the advantage derived from remaining so long in the open air. Many are willing to take exercise while the weather is pleasant; but it should be taken daily without regard to weather; and there can be no better proof of the benefit resulting from this, than the almost uniform good health of the members of the medical profession, who are exposed not only to all vicissitudes of weather, and at all seasons of the year, but who are compelled to expose themselves frequently to the night air.

Much has of late been said in favor of gymnastic exercises, and strong efforts were for a time made, and with some degree of success, to introduce them into our public seminaries. To the young they cannot be injurious; in many cases they are no doubt useful, but it may well be doubted whether they can ever be made to take the place of the youthful games and sports that have been transmitted for ages, and if they could, whether the exchange would on the whole be advantageous. But if they are not undertaken at an early period of life, they may prove mischievous, by bringing into action muscles unaccustomed to be thus exercised, and in this way lay the foundation for some severe affection.

With attention to diet and exercise, modified to the peculiar circumstances of each individual as his own experience may dictate, almost every student may promise himself good health with a fair prospect of attaining the age which is the usual period for man, and what is of infinitely more consequence, he will have every reason to believe that the light of intellect will remain unclouded to the last.

LECTURE III.

ON

THE UTILITY

OF

VISIBLE ILLUSTRATIONS.

BY WALTER R. JOHNSON.

UTILITY OF VISIBLE ILLUSTRATIONS.

The advantage of instruction of that kind which modern methods impart, above that which prevailed when learning dwelt chiefly in the closet and the cloister, is, that it substitutes the assurance of demonstration for the blind assent of the will, to abstract propositions. But this is not the only superiority of the modern plan of conveying information. It likewise gives to those demonstrations, the vivid form of *sensible illustrations*, either simultaneously with the demonstration itself, or even *previously* to the statement of any *general principles* concerning the subject.

The employment of our various means of demonstration involves, in general, an appeal to the sense of sight. The *eye of the auditor* is consequently a chief coadjutor in the labor of instruction. It is *that* through which we are enabled to reach every intellect. It is the medium which conveys delight to the soul, while it fixes the conviction of truth on the understanding. It is the instrument with which the mind not only grasps and takes up, but also holds fast, while she rivets together into a consistent whole, the separate links in her longest chains of reasoning. And though from the nature of our subjects, or from the limited means of procuring the instruments for this kind of illustrations, we may be compelled to forego some part of the advantages which they might procure, yet it is doubtless to be accounted as among the auspicious circumstances of the age, that truth now so frequently presents herself to the student under the attractive guise of visible demonstration, and actual experiment.

This is believed to be truly placed among those improvements in the theory and practice of instruction which are founded on *principle*, and not on the mere detail of individual practice. It has for its basis, the well known mutual influence of the senses and the understanding upon each other. Like other principles of instruction, it requires that due regard should be paid to the circumstances of particular *cases*, as well as to the general characteristics of our race; but this requisition does not in the slightest degree impair the validity of its claim to be considered as an improvement on the ancient methods of communicating knowledge.

The truths of many sciences would never reach the minds of a majority of mankind except by their connection with sensible illustration. Hence it may happen that he who devises and applies a new illustration of a difficult subject, though he may not claim to be ranked with *discoverers*, may justly demand the foremost honor among *inventors*. Knowledge—that food of the mind—that solace of the soul — is thus brought within the reach of multitudes. *New blades of grass* are made to spring in the once desert places of the intellect. The benefactor of his race is no longer content with multiplying only the physical, the animal gratifications of his fellow beings. He seeks a higher reward; he aspires to a nobler distinction. He would awaken the curiosity; he would stimulate the ingenuity; he would allure the senses from their baneful connection with vice and folly, and fix them on objects worthy of their regard, and worthy alike of the interest and efforts of the mind.

It can scarcely be thought necessary, in the present state of *intellectual philosophy*, that an elaborate dissertation should be presented to those whose daily duties lead them to contemplate the phenomena of mind, to prove the vast importance of *clear conceptions* respecting the *elements* of knowledge.

That without such conceptions all the subsequent stages of progress must be involved in more or less uncertainty, appears plainly inevitable; and that this defect in early culture will extend to the practical character of the individual, is a consequence too obvious to require proof. Severe struggles and long continued efforts may in part remove the difficulties superinduced by early mismanagement; by habits of loose and vague conjecture; by substituting

the empty imaginings of an unfurnished mind, for the solid fruits of active inquiry. But these endeavors, it is notorious, are seldom made; and when made, they not unfrequently prove wholly unsuccessful.

The clearness of conception now referred to, is entirely distinct from that mere promptitude with which the memory may collect, and the tongue may utter, the written precepts, the didactic formulas, of any science. Though accurate in themselves, *these* often fail to convey any correspondent accuracy to the youthful mind. A great volubility of tongue in repeating what has been dogmatically laid down by the *book* or the *professor*, is often attended by an utter heedlessness in regard to the true purport of what is repeated. And as to the mutual relations between the parts of a complicated or abstract science, especially when left to be *inferred* by the student, they are entirely disregarded. It is, apparently, thought sufficient that the limit assigned for his exercise has been reached; that the *whole lesson* has been repeated with scrupulous fidelity in regard to words, and that he comprehends the separate truths embraced within its range. But he does not in fact *comprehend;* he only admits with a passive acquiescence some vague general propositions.

With little to rouse the attention, less to excite the curiosity, and nothing, perhaps, intrinsic to the study itself, which could stimulate *voluntary exertion*, it is not remarkable, that his mind should become the mere receptacle of intellectual lumber—not one article of which he could rightfully call his own.

Facts and opinions thus stored, without ever being *appropriated*, become the readiest material for dogmatism and pedantry, and are accordingly dealt out with a lavish hand, when occasion requires a display of learning. The proverbial deficiency in the practical duties of life, of young persons thus instructed, must be decisive against persevering in a course as hostile to sound learning as it is to pleasure and to usefulness.

The preceding remarks may lead us directly to a consideration of one among the various means by which precision and permanency of knowledge may be substituted for the superficial and fleeting impressions too often resulting from the ordinary methods of

instruction. This means we shall attempt to show is a judicious and legitimate employment of visible illustrations to convey the truths of science, or fix the remembrance of literary subjects on the youthful mind.

In presenting this subject, it will be first in order to show that visible illustrations do in fact convey accurate conceptions and permanent knowledge.

The illustration and confirmation of this point by reference to certain departments of knowledge will next be attempted.

The time and manner of employing this instrument of instruction will then claim attention.

We may subsequently pass to the limitation of its usefulness by the nature of certain subjects; and finally, indicate divers abuses and impositions to which the unguarded may be liable, from a too hasty adoption of some specious views of this matter.

Whether we consider *vision* in its connection with the anatomy and physiology of the human frame; with the subtile material *substance*, or the not less curious *vibratory action* of its supposed cause; with the wonderful developments in regard to that cause which recent investigations have produced; with the infinity of wonders in other branches of science and art, with which the modern improvements in optics have made us acquainted; with the refinement of taste and the gratification of fancy, to which the power of sight was long ago proved to minister more than any other of the five senses; or, above all, with the commencement, extension, and confirmation of our *knowledge* respecting the universe around us, and all that it contains; we shall, in each of these points of contemplation, behold a subject, than which philosophy presents none more curious, — nature, none more truly delightful. It is to the last mentioned view of this matter, however, that our present inquiries relate.

It has been said that the *senses* require restraint rather than excitement; that we are but too prone to indulge their gratification instead of allowing them to slumber in unwarrantable apathy. To those senses which minister to the more brutal passions, this observation is in a degree applicable. The unseasonable and the excessive development of the grosser appetites is doubtless an evil to

be deplored by every friend of morals and of social order. But it is chiefly to abuses of even these senses that the objection in question is to be applied. To make the thoughtless pursuit of pleasure take the place of mental culture and moral improvement, is no less culpable in youth, than it is despicable in age. But to cultivate any and all of the senses for the legitimate purpose of extending and beautifying the dominions of the intellect, is in every stage of human advancement most worthy of regard and commendation. And if it can be shown, that by employing the aid of sensible illustrations, a deeper mine of mental wealth can eventually be opened up to the researches of man, or a wider diffusion given to the treasures already amassed, who shall hesitate in the adoption of means by which so desirable a consummation may be effected?

But the illustration of truth, especially of a physical and (when practicable) of an abstract kind, by means of visible representation, is not defensible merely on the ground that the exercise is in this case more innocent and rational than in that of the other senses — not on the plea that our sight is more *perfect* than any other sense, or that it is the source of the chief pleasures of our imagination — not that the grand, the novel, and the beautiful are principally revealed to this sense, and received through its instrumentality — nor yet because the highest rational felicity, — that of a refined taste — is derived from the varied and pleasurable exercise of the sense of sight. All these are grounds of grateful acknowledgment for the high privileges of our nature, and tend to excite the liveliest admiration. But in connection with the improvement of mind, the exercise of the eye claims pre-eminence among the available means of gaining and establishing all our real knowledge.

"*Ad aures tardius res adveniunt quam ad visum.*"

And let it not be objected, that the eye is *sometimes* deceived; that the records of testimony show how uncertain a reliance is to be placed on the perceptions coming through this organ. Let us rather remember how unhesitatingly the greater part of mankind depend on their *own eyes*, for the highest assurance, and in the most momentous of human affairs — how entirely common sense has taught them to regard this *particular sense* as the very touchstone of all true conviction.

Let us reflect that men in general, unsophisticated by any subtleties of an over-strained logic, are no more inclined to distrust their eyes, because they have sometimes met with such a thing as an ocular deception, than to reject the evidence of taste or smell, because these senses, when diseased, give indications different from those which they afford when in health. Let it be granted, that the perceptions of sight often require to be verified by the concurrent testimony of other senses, and that the faculties purely intellectual do, in some few cases, command for their deductions a degree of certitude, seldom accorded even to the combined evidence of the senses; yet these facts cannot shake our trust in the direct and positive evidence afforded by the sense of sight. It gives us assurance of the presence of objects, so positive, that we seldom *seek* a higher degree of conviction for the understanding.

It is true, that the sense of touch is, especially in childhood, the corroborative proof to which nature, for wise and useful purposes, early teaches the infant to resort; but the matured faculties apprize us that it is rather a *childish* propensity to wish everything that comes within our reach, submitted to this kind of examination.

Again, it is well known that there are branches of science the most sublime and difficult, about which all our knowledge is ultimately referable to sight alone. Still we rest upon the deductions made by long trains of reasoning in these sciences with as much confidence as on those purely mathematical demonstrations, in which we have an intuitive perception of truth at every step. I need not apprize you, that the science of physical astronomy stands foremost, among those which appeal to this single sense for their discoveries. We have never yet *touched* the stars.

To understand the importance of making the right use of the senses, and particularly of sight, subservient to the development and cultivation of mind, we need only recur to the erroneous impressions often made on the mind through a neglect to employ suitable illustrations to explain our language to children. These false impressions become the sources of numberless misfortunes, — and ridiculous, or worse than ridiculous prejudices are often among the least of their evil consequences. An erroneous association of ideas with the terms which they are taught to employ, is found extremely

difficult to eradicate; or if mature reason does ever succeed in separating the false from the true, yet as a mere conviction of the understanding is a less operative principle than an early habit of the mind, the false notion may still adhere to the words with which it has become associated, and every time the word occurs, a separate effort of the will may be demanded to bring the truth into contact with its proper term. It is related by a credible author* that a certain gentleman, who in his childhood was reading to his pious mother something about the *patriarchs*, stumbled in his pronunciation, and called the word *partridges*. The good lady of course set him right in his *pronunciation*, but not in his conception of the *meaning;* for, as often happens in such cases, she took no pains to explain either of the terms. Hence, the next time he encountered the word *patriarch*, he again called for assistance, saying "here, mamma, here are these *queer fowls* again;" and to the latest day of his life, he averred that he could not but link the idea of a bird, as the first involuntary suggestion, to the word *patriarch*, which had thus puzzled his infantile mind. Probably most persons may find something analogous to this, in regard to their early conceptions of *words* and *things*, especially when the former came before them for the first time, unaccompanied by the latter.

We may next proceed to an exemplification of the usefulness of this instrument in the acquisition and retention of scientific truth; but will previously make a few remarks, which will be found generally applicable to them.

In almost every subject, capable of being presented to the eye, there are several distinct species of illustration, each containing approximate developments of the truth which we wish to make known. These are severally resorted to as occasion requires, or as opportunity allows. But since they may convey each its different degree of force and clearness, it should be our aim, as far as practicable, to adopt that which produces the *highest* assurance, and in fact comes the nearest to an *actual exhibition* of the matter to be demonstrated.

In all species of illustrations the least general truth should first be

* Mrs Hamilton.

presented to the eye of the student, and those modes of demonstration which partake of the nature of abstractions, reserved for a more advanced stage of his progress. This is only following out the principle of induction ; or perhaps we ought to say, it is the first and best period for the application of that important method of intellectual improvement.

In some cases we are wholly incapable of giving a visible representation of a subject directly, but may have recourse to some of its analogies, and thence obtain a parallel relation to things capable of being presented to the eye. Thus, we cannot exhibit directly to the senses, the manner in which a charge of electricity is distributed over the surface of a prime conductor; but by the intervention of *motion* produced in the index of a torsion balance by a small insulated metallic plane applied successively to the different parts of the conductor, and at each trial presented to the index, the mode of the distribution becomes apparent, according to the effect observed at each application of the plane to the balance.

With regard to subjects capable of being *illustrated* by an appeal to the eye through certain representations, many are likewise susceptible of a complete exhibition to the same sense, with all the details which science would make known. In these departments of knowledge, the most satisfactory illustration is doubtless to be found in the exhibition of the thing itself which we would explain. Yet, owing to the complication of parts and the intricate or concealed structure of an object, it may happen that more clearness will be given by well executed drawings, than even by the immediate inspection of an object of this description.

Among the foremost subjects for visible illustration must be reckoned the branches of natural history, and the physical sciences in their most extended sense. These may in general be illustrated in one or other of the following methods.

1. By the actual presence of the things to be made known, — with all their natural circumstances.

2. By the presence of the same in an imperfect state, or in detached portions.

3. Artificial models, having none of the actual parts or elements of the original objects, may be substituted for the latter.

4. Graphic representations, combining the advantages of lights, shades and perspective.

5. Outline figures, or mere diagrams, in which the imagination of the beholder is required to supply all except the general feature of the object delineated.

6. The relations of objects, in regard to magnitude, number, proportion, and efficiency, may be exhibited to the eye by mere symbols, conveying only a concise expression of the verbal propositions which may be enunciated respecting them.

Among the departments of Natural History, that of Botany may be illustrated either by an actual resort to the fields and forests, where the natural habits of every vegetable production are seen unimpaired by any efforts of art; or by repairing to the garden, green-house, or nursery, where man has in part divested the plant of its native wildness. In the former, and in all analogous cases, we can hardly be said to study nature by the *help of illustrations.* We rather contemplate, at *original sources*, the truths inherent in her plan, as they stand unveiled to the intuitive apprehension of the mind.

Again, we may pursue this science by consulting the preserved specimens of an herbarium, duly labelled and scientifically arranged. Here, as well as in the garden or the green-house, we have an *actual presence* of the things to be made known, but divested of several circumstances in their original condition. Thus also the different kinds of timber are sometimes formed into boxes in the shape of books, containing samples of the bark, leaves, flowers, fruits, roots, and seeds. The insects which inhabit or infest each, are sometimes added.

In the next place, we may construct artificial, but accurate models of some races in the vegetable kingdom, of which actual specimens cannot be easily preserved. Thus the cryptogamous class has been successfully imitated in wax; and the trade of making artificial plants and flowers, so fruitful in unnatural creations, so prone to content itself with pretty monsters, might be turned to good account, were a little science added to the skill which now ministers chiefly to a depraved and frivolous taste.

If neither of the above means present themselves, we may examine the colored figures which exhibit an intelligible picture of

the original plant, with the parts constituting the distinctive characteristics of the class, order, genus and species, separately and conspicuously displayed; and finally, we may gain no inconsiderable benefit from carefully inspecting the mere outlines, without shading or coloring. When colored figures are employed, the nature of the locality in which the plant generally flourishes, may easily be added, and may aid the student in forming a vivid conception of its character and habits.

The study of animated nature may be pursued by the aid of illustrations equally various. To visit the haunts, and observe minutely the characteristics of each species is, however, a pleasure destined to be enjoyed by few, even of the enthusiastic cultivators of Natural History. It is only men, who, like Wilson or Audubon, are willing to exchange the pent air of cities for the free circulation of mountains and forests, and the constrained air of fine gentlemen, for the habits of a Boone or a Leatherstocking, that can expect to become thoroughly intimate with the instincts and dispositions, — the *personal character*, (if we may be allowed the expression,) of those denizens of the forest which form the subject of zoölogy. Nor is a minute acquaintance with the living habits of an animal indispensable to a tolerably clear comprehension of its nature and properties. The mutual relations of the several parts and organs, the precise mode of action, and the degree of dependence of those parts on each other, can hardly be exhibited without some analysis of the specimen; — an analysis which can be made only after the functions of life have ceased. Hence it happens that the second class of illustrations is, when applied to this subject, more advantageous for giving certain kinds of information, than the preceding; and hence the human frame is far better understood from an inspection after death, and the practice of dissection, than it can possibly be by the most minute examination of the living subject. The class of illustrations in zoölogy, to which we now refer, includes the *skeletons*, duly connected so as to exhibit the frame of the animal; the *skin*, prepared and stuffed for exhibiting the exterior appearance when alive; the internal organs *injected* with some colored substance, to display the several blood vessels; and the muscular parts, the viscera, or even the whole bodies of some

classes, particularly of reptiles, *preserved in spirits*, and so placed in the containing vessels as to present to the eye the most interesting portions of the specimen. As an example of the striking effect of specimens in comparative anatomy, in aiding the imagination, I may mention an incident which fell under my observation. When a delegation of one of the most savage of our western tribes, a few years since passed through Philadelphia, they were invited to visit the Philadelphia Museum, in which, finding many of their quadruped acquaintance, with various implements of their own warfare, and a vast number of objects before unknown to them, they were naturally much delighted with the celebrated establishment, and expressed, (as far as an Indian ever deigns to express it,) their admiration of the novel spectacle. Divers ejaculations, and some obscure signs of relaxed gravity were occasionally observable during their progress through the rooms, until they came to that part of the hall where the skeleton of the huge mastodon, stood all at once revealed to their bewildered senses. The awe which seemed to come over them now deprived their tongues of utterance, and held their eyes fixed in the direction of the vast, black, bony structure, as if it had been an object of adoration. Such, it was said, their tribe *are* in the habit of regarding the mammoth; and as it had all their lives before been merely a creature of imagination, or seen only in detached portions, its real bulk and proportions had probably never before been adequately conceived.

To illustrate the subject of zoölogy and its kindred branches, when neither living, nor preserved specimens can be obtained, recourse may be had to the third species of demonstration by purely artificial models. A very accurate representation of every part of the human frame is often formed in wax, or other plastic material, and where professional skill is not the object of study, may be quite adequate to convey a competent knowledge of the subject.

The use of colored engravings, in illustrating every department of animated nature, is a practice so general as hardly to require a mention of its usefulness. In the subdivision of ornithology, our own country has produced a full share of splendid performances of this description. Indeed, imitative art has seldom displayed more brilliant achievements, than are witnessed in some recent publications in this branch of natural history.

We may also refer to the superb work on fishes now in the course of publication in England, by Mrs Bowdich, as a highly finished performance of this nature, in which every figure in every copy, is a real drawing from the hands of the fair ichthyologist herself.

Linear representations of animals are likewise capable of great spirit and vividness. A few happy strokes of the pencil will enable the most tardy imagination to fill up the space, and give life to the picture.

Were these remarks addressed exclusively to a body of naturalists, they might seem altogether superfluous, since *they* must be familiar with all the modes of representation above alluded to.

They must likewise be assured that the *insect* tribes, in all their varied, Protean, and *questionable* shapes, are susceptible of numerous kinds of representation; that *shells* may be examined on the sea-shore and the margins of rivers, — or in cabinets, under scientific arrangement; but that the art of the engraver, with that of the painter in water colors, may almost supply the necessity of such recourse. The *fossil remains* of vegetable and animal beings, which constitute so remarkable an ingredient in the exterior crust of our globe must be viewed at *original sources*, — must be seen in their actual position in the deep laid strata — if we would realize the full force of the truths which they silently utter. We must look with our own eyes, upon those relics of countless generations of animated beings, now wholly extinct, which, at various periods, have covered the bosom of the ocean, and, in succession, been overspread by a hundred thick deposites of earthy matter. We must observe how each fresh layer became, by the obviously slow action of untold geological ages, converted into impervious rocks; we must mark the exact lineaments, that stand forth from the solid marble; must note the figures of those sightless eyeballs which glare in millions from out the dark and threatening masses, over our heads, as we venture down into the chasms and water courses, where these truths, touching the primeval condition and the numerous changes of our globe, are now and then accidentally revealed.

To be a geologist in the best sense of the term, these and many other similar facts must be examined at original sources. But all cannot make pilgrimages to the sanctum sanctorum of nature;

and if they could, all would not profit by the journey. The greater number must be content to admire the relics brought thence by her more zealous votaries; and must take upon credit the fact of their being found where *they* have asserted. As to the genuineness of the relics, all may judge for themselves; and each may, if he see fit, make himself, according to his disposition, either merry or wroth with another's *opinions* about *osteological distinctions.*

The second kind of fossil and geological illustrations consists therefore in specimens or fragments of the several strata to be explained, arranged under appropriate classes with the locality attached to each, and with the organic remains designated by names, assigned to them by naturalists. But some species of these curious objects are too rare to be generally found in the most extensive cabinets, and recourse is accordingly had to models or casts in plaister, clay, or other plastic materials, duly colored, to represent some real specimen to which the modeller has access. A small but interesting treatise on American *trilobites*, accompanied by numerous casts of this nature, has recently been published by a gentleman* of Philadelphia, and may illustrate the foregoing remark.

The fourth kind of illustrations, that of shaded and colored figures, for maps and sections of country, appears almost indispensable to every course of instruction in this department. Without them, not only the varieties of mineralogical elements, composing the different beds, would soon become confounded together in the mind of the auditors; but the relative situations of geological series, — the displacement of strata, — the results of recent deposites of matter, over surfaces formerly upheaved, — the different positions of *conformable* and *unconformable* rocks, with numerous other facts and principles in this engaging science — would be nearly unintelligible.

As evidence of the usefulness of engravings to elucidate fossil Geology, we need only refer to the splendid works of M. M. Cuvier, and Brogniart, — monuments at once of their author's talents and industry, and of nature's ancient, inexhaustible variety of organic productions.

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What has just been stated respecting Geology may be applied with slight variations to the kindred science of mineralogy. 1. Minerals may be examined in their natural localities, or subjected to careful analogies. 2. The whole mineral kingdom may be displayed by well chosen, representative specimens, each of which may speak in turn to the eye of the inquisitive, and declare the character and relations of all within its district. An incidental circumstance (that of crystallization) connected with the study of mineralogy, is capable of being *delineated* in a manner fully intelligible, without the aid of solids. This department of natural history employs less frequently than almost any other, the aid of artificial models and colored engravings ; both because the actual specimens are for the most part easily obtained, and because the models and figures would fail to address correctly any other sense than sight; and it is well known that mineralogists depend on the touch, the odor, the hardness and the specific gravity, no less than on the color and crystalline form, in making up their opinion of the composition of a mineral.

If we leave the range of natural history, and ask what dependence other branches of physical science place on the aid of visible demonstration, the chemist will direct us first to the laboratory of the manufacturer; or to that of the philosophical inquirer, surrounded by his instruments of research. He will next invite us to the exhibition of illustrative experiments, accompanied by statements of his own, to enable us to supply in imagination what cannot there be presented. Should he have occasion to describe a process, too long to be completed within his hour, we shall even be content to be shown the model of an apparatus by which it is performed ; or he will have put in requisition the talents of a draftsman to multiply the varieties of form, and strengthen our conception of what he cannot actually exhibit. If he have occasion to speak of that which constitutes the pride of modern chemistry — the doctrine of definite proportions, — the matter will not be simply stated in words ; we shall have either a linear diagram, a set of variously colored cubes, or a Wollaston's scale of equivalents to render all perfectly clear and truly *definite.* Perhaps, too, he might treat us to an explanation of this celebrated doctrine by means of certain symbols, which, though

a little cabalistic at first sight, soon prove to be the most concise and beautiful method, of presenting to the eye a vast amount of facts respecting chemical combinations.

In Natural Philosophy and Mechanics, all the six methods before enumerated find constant application. From the workshop and the manufactory where the *principles* of these sciences are carried out into full practical developement, to the abstract expression of those principles by help of the numerical, algebraic, and fluxional symbols, we have a series of appeals to the eye, by means of which we may impress on the understanding the great truths of the science or the varied modes of their application. Thus, working models or movable diagrams constitute the second class; solid models or patterns, the third; perspective representations, the fourth; and outlines, the fifth.

We have already referred to the case of astronomy as resting on the basis of observation. We might go into the walks of the fine arts, and witness the various means by which the painter, the sculptor, and the architect endeavor to make known their achievements. Here the two former would be found, appealing solely to the understanding and the taste through the eyes of mankind; and of the latter, so far as building assumes the character of a fine art, and not merely of a useful trade, the same is preeminently true. Even music makes at least one most effectual and useful address to the eye by aid of the symbolic notes, without which many a modern performer would have been lamentably untuneful.

A most valuable application of the principle contended for is found also, in communicating the laws of elocution; the very slides and inflections of the voice have by philosophical masters of this art, been happily depicted by lines and characters, which furnish to the eye something on which it can seize, to arrest and detain the fleeting modulations of sound. This enables us to fix the laws of utterance as regulated by construction, and especially to convey definite ideas of the rising and falling inflections — one of the most difficult duties, perhaps, which the rhetorician has to encounter.

Would time allow, we might further elucidate and exemplify the subject by a reference to geography, history, the manners and customs of nations, the mythologies of ancient, and the superstitions

of modern times. But scarcely a book in either of these departments of knowledge is now put forth without some evidence that the principles above advanced have operated upon the minds of their authors; nearly all are accompanied by some sort of visible illustration.

But there will sometimes be found matters of science, which we cannot bring before the eyes of the student. To carry conviction of their truth, or even a conception of their possibility, we must in the absence of actual ocular demonstration, adopt an *analogous* fact, or principle. A case has sometimes been supposed of an inhabitant of the tropics, who should be told that in other climates, water itself, that proverbially fugitive substance, was for a great part of the year in a compact, solid state, capable of being applied to the numerous purposes of impenetrable masses. That in this state, it forms the continuous bridges of mighty rivers — the gemmed splendor of the forest scene — the roofs of cabins for barbarous tribes — the walls of palaces for fanciful monarchs — and a vast winding-sheet for all the glories of a departed year. How strong, it is said, must be his faith, to give credit to assertions so apparently absurd; and how should we overcome his incredulity? How, but by recalling to his mind some analogous change from the liquid to the solid state, particularly such as might result from a reduction of temperature. Should he ever have seen a saturated solution of any chemical substance, depositing its crystaline masses over the surface of a cooling liquid, his unbelief might be shaken, and the supposed fable of solidified water assume the air of a possible truth. We may however remark, that Natural Philosophy or Chemistry, or both combined, would enable us to put this doubt at rest in any climate; as there is none so hot as to prevent the success of those frigorific experiments, which you need not to be informed, both sciences are capable of exhibiting.

It is believed to be a common practice to delay the exhibition of facts admitting visible illustration, until a late period in youthful education, and to detain the mind from a full and thorough acquaintance with the things about which principles in science have been *enunciated* by the learned, under a belief that the general laws could not thus early be comprehended. Yet we find attempts

made to urge upon the youthful, and even upon the *infant* mind those very laws, or others more abstruse, which it is deemed premature to exhibit in actual existence, in the economy and operations of nature.

It is probably found easier for those who *profess* to teach the branches to which we now refer, to discourse with apparent learning about *principles*, than to exhibit, explain, or even understand, how these principles are applied in any given actual illustration. Hence the practical benefit to learners, is sacrificed to the love or the affection in teachers of being profound in abstractions.

In most departments of physical knowledge, the reverse of the course just stated may be very successfully adopted. The *facts*, and the more simple *laws*, of each science, may be early made familiar, by their actual presence before the student, or by the best illustration which we can command, while the mathematical, or other general laws, may be reserved until the habits of abstract reasoning and of generalization, have begun to be formed.

To certain subjects, we readily admit, the mode of illustration now advocated is not applicable. Or if we attempt to make the application, we shall not only fail of rendering the subject more clear, but shall almost certainly obscure or degrade it. Of this kind are those questions which respect immaterial essences, their nature, relations, and mode of existence. The attempt to illustrate ethical and theological subjects by visible representations, is believed to have proved in most cases abortive, or to have utterly failed of its aim, if we admit that aim to have been the dissemination of truth. The conceptions of an individual mind on subjects of this nature may doubtless be most vividly set before the eye, by visible representations. There was a period in literature, when most of the productions exhibited on the stage were founded on the legends respecting saints, angels and demons; and the actual representation is said to have corresponded admirably with the extravagance of conception, in which their authors indulged.

But the uniform tendency is, to degrade whatever noble attributes are sought to be embodied, and to introduce groveling and unworthy notions of the object of homage. The result is, a constant falling away to some species of idolatry — a substitution of some

creature of sense, or at best some physical creation of the brain, for the true object of rational adoration.

Questions of abstract and metaphysical science are seldom capable of being reduced to the form of visible representation; because mind itself, which is the object of such science as well as its faculties, is by nature wholly invisible.

The pencil has sometimes attempted to shadow forth certain states of mind, and particularly of moral feeling, by the representation of human forms in the attitudes and actions which those feelings or states of mind naturally induce. Thus *Melancholy*, with her pensive air — "her eye upraised, as one inspired;" — *Hope*, with her smile of anticipated joy — turned on vacancy; — *Devotion*, in her meek and suppliant attitude; — *Imagination*, with her rolling, frenzied eye; — *Fear*, with her blanched cheek and quivering lip; — *Cruelty*, with her dark frown and stern regard that gloats on blood; — these, and innumerable other personifications of the passions or dispositions of our race have been portrayed on the canvas, or stood forth from beneath the sculptor's chisel. But the misconstruction to which representations of this nature are liable, and which will perhaps forever prevent the success of attempts to generalize the passions, indicates that the imitative art has strayed from its due sphere, and that its labors should be bestowed on real rather than allegorical subjects; on things that address the eye, and not on *things unseen*.

Hence, though the abstract branches of science demand all possible elucidation, we cannot hope to obtain it from sources incompatible with the nature of the truth to be established; and it is worse than useless to attempt to facilitate the reception of definite ideas, by means which must inevitably render them confused.

Now it is precisely this class of subjects which do not submit in any form to the test of inspection, that has given rise to the longest and most unprofitable disputes among mankind. It is the class which for ages has puzzled the ingenuity of the subtle, and to this day is as near being decided to universal satisfaction, as at the moment when it was first made a matter of dispute.

Besides attempting to apply visible illustration to subjects in which its only effect could be to mislead, there is some danger

that persons, who are not entirely conversant with the value of the various means and methods designed for this end, should be cajoled into a belief that everything which bears the name of apparatus, or visible representation, is valuable, for the purpose of instruction.

The spurious articles professing to be designed for illustrating the sciences, may also be urged upon the attention of those who have but little opportunity for examination or inquiry; and they may be induced to lavish valuable pecuniary means on objects utterly worthless.

If the advocates of popular instruction intend to accomplish anything of importance by demonstrating the truths of science, policy and duty would seem to require that in selecting the means regard should be had to their intrinsic value and efficacy. The cause we advocate may therefore be in some instances retarded, or actually obstructed, by the very implements of which the professed object is to advance it.

In a zeal for copiousness of illustration, it is to be regretted that implements and methods of elucidation are sometimes adopted, which, far from being the best that might be found, are but little, if at all, superior to verbal explanations. The cause of knowledge is actually retarded by frivolous and futile attempts to give, by any visible means, an *appearance* of exactness and demonstration to a subject which is confessedly level to all capacities, without any other explanation than a simple statement in plain and familiar language.

LECTURE IV.

ON

THE MORAL INFLUENCES

OF

PHYSICAL SCIENCE.

BY JOHN PIERPONT.

THE

MORAL INFLUENCES

OF

PHYSICAL SCIENCE.

GENTLEMEN,

In performing the duty assigned me on this occasion, I have found myself embarrassed, at the outset, by a difficulty that seems to be thrown, by the very constitution of our nature, in the way of one who attempts to distinguish precisely between the *moral* and the *physical* benefits resulting to man from any employment or pursuit in which he may be engaged.

I am to speak of the moral uses, benefits, or advantages, resulting from an attention to the physical sciences. Can I speak at all upon this subject, without casting the eye of my mind upon the student of nature, as he is seen, when engaged in some one of the departments of physical science, and observing the bearing and influences of his pursuit upon himself, as constituting, in his own person, one link of the long chain of being, that runs up, from the dust upon which he treads, to that higher and spiritual world which lies beyond the reach of his eye or of his glass, and can be seen only through that spiritual light which shines within, and by means of that "candle of the Lord," which "lighteneth every man that cometh into the world;" — without looking upon him as an animal, as well as an intellectual and a moral being, as a part of God's great

creation, allied to two worlds, — on this side, bound by his wants and his infirmities to earth, and to a near kindred to the worm that he stoops to examine, and, on that side, connected with creatures of a higher nature, by those powers, in which the supremacy has been given him over the other creatures of earth; — in one word, without looking upon him as *a man*? And can I contemplate him, as such, without seeing that the very pursuit in which he is engaged, while it exercises and strengthens his intellectual powers, exercises and strengthens also his animal frame, developes and makes more perfect that body which is so "fearfully and wonderfully made," and, by this very process, makes his being a greater blessing to him, and therefore a greater occasion of gratitude to the goodness that gave it? And can I speak of the influence of physical studies upon the physical powers, without seeing, at the same moment, that they must exert a kindred, though reflex influence upon his moral sentiments? Can I see the botanist, "brushing with hasty step the dews away — to meet the sun upon the upland lawn," and the mineralogist, upon the craggy cliff, with "fire and hammer breaking the rock in pieces," and by this means gaining the bloom of beauty and the hues of health, without seeing that, at every moment, they must be tempted by the impulses of their very nature,

> — "to kneel them down, and worship there
> The God who garnished out a world so bright and fair."

So difficult is it, considering how constant and how strong is the reciprocal influence of the material upon the immaterial creation, and of the immaterial upon the material, — of matter upon mind, and of mind upon matter, — to draw, accurately and distinctly, the lines which divide the moral influences of natural science from the physical or organic; and so true is it that the prosecution of the physical sciences, which conduces most directly to the strength, beauty and perfection of the body, conduces also to the well being of the mind and the heart.

I hope, therefore, that I may be excused, if, in speaking of the moral influences and effects of prosecuting the physical sciences, I advert, at least in my introductory remarks, to those moral benefits which may, nay, which must be derived by every lover of science, indirectly or circuitously, through the physical or organic

benefits: — if I cannot forget or fail to notice, that the *heart*, as the seat or organ of our *moral sentiments*, attains a healthier state and a stronger action, through these very exercises and labors which enable it, as the gushing fountain of *animal life*, to perform its appropriate functions with greater freedom and power.

By *physical science*, we understand, *knowledge of the substances of the material universe, and of the changes that are incident to them.*

My proposition is that physical science, in the pursuit and attainment of it, exerts a salutary influence upon the moral sentiments and character. A consequence of this proposition is, that, other things being equal, the more a man knows concerning the objects of external nature, the more he multiplies his sources of enjoyment; and the more he knows of those laws by which the Creator conducts the operations of the material world, the more will he see of their harmony and beneficent tendencies; and the more deeply he is impressed with these, the more will he be disposed to reverence God's moral laws, and to secure his highest good as a moral being, by casting himself under their protection.

In illustration of this position, if not in proof of it, I propose to consider some of the particulars in which an attention to physical science has a salutary bearing, more or less direct and obvious, upon the moral sentiments, habits and character; and I care not to distinguish the various departments of natural science, and to exhibit some favorite one as more conducive than another to moral improvement; for I am not yet prepared to say that any one thing that comes from the Creator's hand has received a deeper or more visible impress than another of creative power, skill, or benevolence, or is a better expositor of the relations which all created beings hold to him, or is more capable of exercising the intellectual powers, and exciting the moral sentiments of that distinguished creature, to the dominion of whose reason all visible objects are in some degree made subject. In the broad language of the commandment, whether it be "in heaven above, or in the earth beneath, or in the waters under the earth," whatever we make the object of our scientific examination becomes instantly to us, as Noah was to the people of his age, "a preacher of righteousness,"

an expositor of some one of the attributes of the Maker, and of his claims upon the things that are made. No one student of the great volume of nature, no one inquirer after its truths, the professor of no one branch of physical science, therefore, is, in this respect, to be preferred to another. And this very consideration goes to show how truly the apostle has affirmed of God that "he is no respecter of persons."

We consider, then, that our moral sentiments and character are improved by everything that excites or awakens in our bosoms such feelings or emotions, in relation to the Creator of all things, and to his creatures respectively, as are due to them from us; and makes those feelings become the moving power, by which we are impelled to do those acts towards the Creator and his creatures which, for our good and that of his other creatures, he requires us to do.

We also consider that some of the sentiments which it becomes us to cherish and exercise towards *him*, such as gratitude for past good, and trust for good that is yet future, are such in their nature, as spring from a consciousness of good already received, or pleasure or happiness already communicated and enjoyed, and such as cannot exist without reference to such good. It is obvious, therefore, that whatever gives us the consciousness of pleasure, and so far contributes to the happiness of our being, must, from the constitution of our moral nature, be to us the source or cause of gratitude or trust in relation to the Author of our being. So also, whatever impresses our minds with a sense of wisdom and benevolence in the power that ordains the laws under which we live, has a direct tendency, if not an irresistible one, to make us obey those laws, and render that obedience a pleasure: but we have already seen that whatever leads us to feel as we ought, and do as we ought towards the Creator and his creatures, contributes of necessity to our moral virtue, and to that highest happiness of our nature that has its foundation in virtue.

1. The influence of physical science, then, is favorable to the improvement of our moral sentiments in as much as the very acquisition of knowledge, in this department of science, is eminently a source of pleasure; pleasure, too, which deserves the name — that

pleases, not in the moment only in which it is seized, but always afterward — pleasure that leaves no sting after it has taken its flight, and is followed by no bitter regrets for principle broken, innocence corrupted, or truth or purity sacrificed. He who gave us eyes and ears, and made them to be inlets to knowledge, made them, in the same degree, to be avenues of pleasure to the soul. And there is not an object to which the eye can turn, that He has not presented to its notice; not a sound to which the ear can open, which is not just such as it is, in obedience to his laws; and that does not affect us just as it does, for some good use. He has made it to be one law of our nature to desire a knowledge of his works, and another law of our nature to derive a pure satisfaction from that knowledge. All the laws of light and of vision, of sound produced, and of sound perceived, are so adapted to the organs of the outer, and to the delicate sensibilities of the inner man, as to be a source of perpetual pleasure even where those laws are not understood; but of tenfold pleasure where they are. The laws of attraction and of motion, those by which, in the mineral world, fluids are converted into solids, by which, in the transition from the fluid to the solid state, the particles of a homogeneous mass arrange themselves, coalesce, and are fixed; the laws of vegetable structure and life, as they are revealed to the botanist; those of animal organization, nurture and decay; those of atmospherical motion and pressure; those of chemical combinations and change, — those laws that regulate the movement of all terrestrial bodies, ay, and of all celestial — as they are disclosed and expounded to the lover and suitor of natural science, are all a source of reverence and trust towards their Great Author, in the same degree as they are studied or "sought out by all those who have pleasure therein."

2. One interesting feature of physical science is, that it is entirely conversant with sensible objects, and is therefore calculated to seize the attention, and excite the interest and inquiries of the moral being before his mind is sufficiently mature to be interested in questions of an abstract nature. A child, looking up at "the moon walking in her brightness" will ask, "Who made it?" long before he can be made to understand the definition of a verb, or to feel the force of an argument upon the freedom of the will: and the answer

of a very little child, to the question "what is that?" referring to the moon — "It is God, looking out of the sky," an answer reported to me the other evening by a friend of mine, an answer full of poetical beauty, and of more than poetical truth, may satisfy any one that the objects of external nature early exert a moral influence upon the young spirit; and that they are the first, as they certainly are the last links of that chain of causes which draw the soul of man up from things seen and temporal, to things that are unseen and eternal.

3. The pursuit of physical science is eminently favorable to morals, in that it withdraws a man while engaged in it, from dangerous and corrupting associations, and enables him to fill up, most pleasantly and profitably to himself, those seasons of relaxation from severe labor which all who toil require, and which many devote to idle amusements, or, worse, to the wasting of time, of means, of strength, and the best hopes of friends, in scenes of riot and debauchery. Need I say how sure, and how swift is the destruction that these bring in their train? I need not, then, say much to convince all who hear me that from this ruin both of body and soul, *he* is perfectly safe who, instead of giving himself up to the dominion of his own gross desires, or to the bad passions of others more corrupt than himself, seeks rest and recreation in the walks of science, and courts the company of such as are able and willing to guide him through the obscure places of her groves, and to go in with him through the gates of her temple.

4. Compared with literature, which is generally admitted to be favorable to moral culture, the study of natural philosophy has unquestionably the advantage, in respect to its moral influences and tendencies.

We look over the catalogue of men who have been distinguished for their literary attainments — the poets, the orators, the essayists, the dramatists, the men of genius, who have been regarded if not adored as the greater lights in the firmament of letters, while they lived, and who left behind them a broad glory after they had sunk away from the eyes of an admiring world. And does there not come over us a feeling of sadness and of melancholy regret, to see how many of these have, by their personal vices, cast a shade over

the splendor of their great genius — how many have been hurried into their grave by their excesses, and found in the tomb a refuge from the sufferings which their unbridled passions brought down upon them! But you may carry your eye down a long list of those who have shed a lustre on their country and their age, by their attainments in physical science, before you find one whose name has been dragged down by vice from the holy heights to which science had raised it. If this is a fact, — and an appeal to the lives of literary men, and a comparison of them with the lives of those who have most successfully prosecuted their researches into the mysteries of physical nature, will show whether it is a fact, — how loud is the testimony which experience gives in favor of the moral influence of physical studies! Indeed, I scarcely know an instance — can any one present name the instance — of a good naturalist, who at the same time was a bad man?

And, granting that what has now been suggested is true, is there not a very good reason for the fact? What is literature but the record of *human passions, frailties*, and *fancies?* The merely literary man must be principally conversant with the memorials of what *man* has said, or done, or thought, or felt; and in his literary associations, he is brought into immediate contact with men of excitable and often excited passions — men jealous of their own reputation in the literary world, and resolved to guard it — men whose atmosphere is almost necessarily one of heat and electric excitement, and who, if they cannot succeed in attracting to themselves the notice of the world by describing the violent workings of other men's passions, will fain affect, though it be to disgust the world by the shameless extravagance of their own.

But it is not so with the attentive observer of nature's operations, who carefully analyses her substances, and reverently studies her laws. In all her processes, no passion is shown, and none is excited within him, but the desire to see and learn more of what is so quietly and beneficently going on around him. In all those operations, there is no impure scene presented to his eye, — no impure emotion excited in his bosom. All is beauty, truth, harmony. A sweet voice is everywhere heard inviting him onward. In the beautiful language of sacred poetry, he sees "truth spring

out of the earth, and righteousness look down from heaven" — the truth of God to his promises — the righteousness of God towards all the creatures of his hand. He feels that in such communion there is wisdom, and pleasantness, and peace. He feels that he is in the temple of the Most High, and that that is not the place for the indulgence of unholy desires, or for the maturing of unrighteous plans, or for throwing the reins upon the neck of his passions. No — there is in the scenes of nature a calm and peaceful spirit seen to be at work, that rebukes passion, quenching its fires as with "the river of God," and, like the Son of God, saying to its tempests, "Peace! be still."

Besides, in the nature of things, it is impossible for a man, when he is heated with passion, to pursue successfully the investigation of the truths of natural science. A man may be eloquent in a passion, perhaps may be made eloquent by his passion. But how would a man succeed who should sit down in a paroxysm of anger to dissect an eye, or assay a metal, to separate the laminæ of a crystal, to analyse a gas, or to charge, or discharge a galvanic battery? Truths that pertain to man may be seized upon in a state of high and guilty excitement, and may be used with a heated spirit to stir up, or to break down, the spirit of his fellow-man: but the truths that relate to God, to his ways and to his works in universal nature, must be approached with the calmness and the reverence which become those who feel that they are in the presence of the Divinity.

Besides, physiological science is more capable of demonstrative certainty than is the science of history, which records the visible manifestations, or that of metaphysics which seeks to expose the invisible operations of the human mind. The intellectual man after laboring to discover physical truth, may repose with confidence amidst his gathered treasures, *knowing* that they are "true riches," and feeling sustained in his toils, and rewarded for them, by the certainty that in every new acquisition he has advanced one step in his upward progress towards those holy heights where, in the beautiful language of an apocryphal writer, "Truth sitteth above all things, and beareth away the victory."

Constituted, then, as our nature is, and as is *all* nature, it is not

possible that the moral influence of physical science should not be more propitious than literary pursuits to the culture and improvement of the moral sentiments: nor, when it is considered that our literary studies often result in the knowledge of man, at best — the knowledge of his opinions, his actions, the creations of his fancy, the extent of his power, his frailties, or his sufferings; while physical investigations introduce us into the store-houses of truth, store-houses that are filled with the knowledge of God, of what he has done and is doing — the knowledge of his power, his bounty and his universal beneficence, — can it be doubted, that the treasures that reward the labor of the literary man, splendid and glittering though they may be, are less valuable to the mind that is to subsist forever, and can subsist only upon "every word that proceedeth from the mouth of God," than is the solid wealth, the durable riches, that belongs to the man of physical science.

Hitherto I have spoken chiefly of the favorable moral influence of the pursuit of the physical sciences, as those influences affect the moral feelings and conduct in respect to man; to the individual himself, his fellow-men, and the other objects of the Creator's care. But I cannot consent to dismiss the subject that I have in hand, without speaking of what may be more strictly or technically called the *religious* influences of physical science; though I must here incidentally remark, that when I speak of religious influences, or of influences upon our religious sentiments and conduct, I mean nothing more than influences upon our *moral* sentiments and conduct, as they are directed towards God, as their object.

5. And, now, I would press upon you, gentlemen, a diligent prosecution of your inquiries after physical science — to each, that department of it, which is favored by his own particular circumstances, taste, or facilities for prosecuting his studies, — and would exhort you to faithful efforts to lead the objects of your instruction, the young minds committed to your care, into the same pleasant walks upon which you enter, yourselves, — on the ground that it must exert a most powerful and favorable influence upon the religious sentiments and character.

The most sure foundation upon which man can build up a religious character is, a knowledge of God. We must know what is

his character, or what he is, in order that we may cherish towards him becoming sentiments; and we must know what he wills, or requires from us, in order that we may render him a service that he will accept. The first step in the process obviously is, that we gain correct ideas of the character of God. Whence is that knowledge to be derived? Evidently from the same source from which we derive what knowledge we have of the character of a man; viz. from the manifestations that he makes of his moral sentiments and purposes: the sentiments with which he shows that he regards an object, by the acts which he performs towards it; the purposes which, by executing them, he shows that he must have formed. In other words, as of man, so of God, we say, and say with confidence, we know what he is only by what he does. "Thou art good, *for* thou doest good, and thy tender mercies are over all thy works." In these words the Psalmist has given us the evidence, and the only evidence that we have, of the goodness of the Creator, "He is good *because* he does good; and we know that he is so, because we *see* that he does so." If we wish to form a thorough acquaintance with a man, we depend not upon the representations which others give of him, except it be from a want of other and higher means of knowledge. We are not satisfied as to a man's moral character, or we ought not to be, by what other men say of him, if we have an opportunity of observing him ourselves in his daily walks, in his intercourse with the world, in his domestic relations, in his struggles with adversity, and in the charities that fall from his hand in his more prosperous days. We are not, and cannot be so well acquainted with the heart and mind and soul of the orator, the bard, or the architect, whose genius rendered a distant age illustrious, by opening our ears to the fame of him that still swells and echoes along the current of time, as we are when we open the volumes in which the mind has left its own divine impress, and manifested its riches, in thoughts that, like goodly pearls, must have been brought up from the clear depths of a majestic spirit, or in images that must have been brought down from "the highest heaven of invention;" or when we stand by the temple that time has spared, that pilgrims like ourselves from distant lands have visited, and that the generations of men have successively contemplated with eyes that would not be turned away

from its beautiful proportions, and with bosoms swelling with the sense of its sublimity.

We know the man, *only* when we know his works. And His works are the primary and the only incorruptible fountain of all that we know of God. I say this advisedly, for an apostle has said before me, "From the creation of the world, the invisible things of him, even his eternal power and Divinity are clearly seen, being understood from the things that are made."

When I thus bring in the authority of revelation to support what I have advanced in respect to the certain knowledge of what God is that may be derived from his works, I shall not I trust be considered as undervaluing or setting aside the *sacred writings* as a means of knowledge in regard to him. God may, if it seem good to him, make other manifestations of himself besides those which he has made in external nature. I trust that he has made such manifestations of his mercy and of his gracious purposes. I rejoice in those revelations, and, believing that he has given them, I shall not be backward to say with the apostle already quoted, "Thanks be unto God for his unspeakable gift." But all revealed religion must rest upon the foundation of natural religion; and all books containing the records and the evidences of a revelation, need some external test or standard, confessedly proceeding from the hand of God, to which they may be brought for comparison and proof; for a true book, entrusted to false, or to fallible hands, may be corrupted, and the sacred oracles have been. A perfect letter, originally addressed to imperfect understandings, must be liable to misapprehension, as the revelation by letter ever has been and still is; — but the works that issue from the hand of the Creator can never be interpolated or corrupted. The last edition is as accurate as the first, and all are immaculate. They need no translation, for they are published in a language that all understand. They are works that cannot be suppressed, mutilated, defaced, or worn out; and, while the world stands, they must remain, the first and the last of all the revelations of God, and that by which all other revelations must be tried, and before which all others must stand or fall as they agree with or contradict that.

But, I am asked, have not men who have been distinguished for their attainments in physical science, been remarkable also for their

skepticism? How, then, can you recommend attention to that department of knowledge as favorable to the religious sentiments and character? These questions, implying an objection and a charge, certainly merit consideration, and I hope I may be pardoned if I somewhat particularly notice them.

In answer, then, I admit the fact that men, richly laden with the treasures of natural science, have often been skeptical. But I ask, in turn, skeptical in regard to what? Have they doubted the existence, or the unmeasurable benevolence of God? the divine origin or authority of Christianity? No, but they have denied the infallibility of popes and councils. Have they spoken against the ten commandments? No, but they have against some of their country's creeds. Have they poured forth scandal upon the Saviour or his apostles? O, no; but they have spoken disrespectfully of the catechism, or of the college of cardinals. Have they treated the Bible contemptuously? Perhaps, not; but some of them have taken liberties with it which look more like doubting than believing it.

To the charge of this kind of skepticism I am aware that many men, who have carefully examined the objects, movements, and laws of physical nature, must plead guilty. Of many such, Gallileo was one, by whom the Bible, which says of the sun, "His going forth is from the end of heaven, and his circuit is unto the ends of it," was flatly contradicted when he declared that the sun did not go forth at all; and as for his circuit, he made no such thing, but that he stood still and let the earth and a good part of the heavens make their circuit around him. And many such skeptics there will continue to rise, notwithstanding the cry of "Infidel!" and "Unbeliever!" till they who read the revelation which God has made by his prophets, shall have learned to read it in the light of that revelation which he had before made of himself, in the firmament which is his workmanship; and to construe it in accordance with the phenomena that are presented to our eyes, upon the face of the earth, in the mysterious depths of its bosom, and in the heavens around us as they are looked into and measured by physical science.

May I not be allowed, gentlemen, without incurring the charge of skepticism, myself, to go one step further, and suggest the idea, that we all of us totally misapprehend the character and objects of the sacred scriptures, when we suppose that the Author of nature

has given, or that he ever intended to give us, in them, a revelation, miraculously made, or miraculously attested, of the truths of *physical science*, in any one of its departments; but that, *as a revelation*, or as *the record* of a revelation *from God*, the Bible has to do with *moral subjects*, and those only. This distinction is a very simple one; if once understood it will never be misapprehended; and if once adopted and approved as a true theory, touching the objects and authority of that wonderful book, will never be forgotten. The idea is, that the Bible was intended to disclose to man the knowledge of God's will or purposes in relation to *moral* subjects only, and that consequently, in as much as it was never intended by its Glorious Author for a manual or text book of *physical* science, it should not be, and cannot safely be, appealed to as authority in *questions* of physical science.

Indeed, in what way could the Maker of all the objects which physical science contemplates, have given us a full revelation of that science, other than that way in which he has given it, in "the things which he hath made?" In what volume could the Creator have revealed himself, as such, to the eyes and the hearts of his creatures, other than that in which he has revealed himself—the mighty and magnificent volume of Creation? What other *imprint* could have been so clear and so legible? What engraving, what coloring could so correctly represent the living beings that constitute the blue covering of a ripening plum, as the ripening plum itself? What diagrams could represent the magnitudes, distances, and movements of the stars, like those which "the stars in their courses" are themselves forever busy in drawing, for the instruction of the successive classes of God's children, which he brings into this great temple of science, that, from the greatness and glory of what he has done, they may learn how great and glorious he must be.

In favor of this view of the nature and proper province of the sacred volume, I would briefly remark, that the rule of the Roman poet is as good in theology as in epic poetry, that "a God ought not to be introduced to solve a difficulty, unless the difficulty is so great as to be worthy of such interposition."* Now the will of

* "Nec Deus intersit nisi dignus Vindice nodus." *Hor.*

God in relation to our moral conduct or sentiments, or his gracious purposes in respect to futurity, being things the knowledge of which cannot be attained by human ingenuity or industry, may be communicated and attested in a superhuman manner, or by superhuman means; and when so revealed, the revelation becomes at once matter of authority, and a subject of the most profound gratitude, and most diligent study. But the means of *natural* science are placed in our hands in the book of nature, a work confessedly of divine authorship and authority; as high authority, consequently, as can be either vindicated or claimed in favor of any written revelation. The propositions, that God will show mercy to the penitent sinner, and that the soul shall survive the body and be followed by righteous or gracious retributions forever, are enunciations of moral truths; enunciations which Nature has no voice capable of making. But the propositions, that the earth is a spherical body, that it has a diurnal and an annual revolution, and that gravity is a quality inherent in all matter, are the statements of facts or truths of a physical nature; truths revealed to us not by the lips of prophets, but by the Creative Power himself, in the very subjects to which those propositions relate, and discoverable by the faculties with which the same Power has endued us: and should a book be presented to us, claiming the high authority of a divine revelation, and should that book declare that the whole earth is a perfect plane, that it is at rest forever, while the sun and stars revolve around it; or, that all substances are of the same density and gravity; we might and should declare, at once, that the book, in those particulars, could not be a revelation from God; and that, with much less impiety than we should manifest, should we say, that the book must be received as true, and as a revelation from the God of truth, notwithstanding its testimony is contradicted by the voice of nature. I say with less impiety; for to say what I have last supposed, is to say that God contradicts in one way what he affirms in another. And if to say this, or anything else that is equivalent to this, be considered by any one as an exercise of faith, or a proof of piety, I can only say with an apostle — "Hast thou such a faith? have it to thyself."

I suppose, in truth, that the prophets and holy men of old, who, on *moral* subjects, spake as they were moved by the spirit of God, knew no more than other leading men of their times, of the truths

of *physical* or *material* nature. In my mind, it derogates nothing from the veneration in which we hold "Moses and the prophets," as moral teachers and lights of the world, to consider that they knew nothing of the Western continent, of the size and distance of the Sun, of the satellites of Jupiter, the ring of Saturn, or the precession of the equinoxes, or yet of the consecutive geological formations which have been discovered since their day. These are things which God has revealed by other servants of his, whom he has raised up, and endued with the spirit of observation, and patient scrutiny, and with the power of ingeniously combining the facts gathered by their researches; men who observed the mysterious power of the magnet, that should guide the ship, the refracting power of crystals that might compose a telescope or microscope; men whom, at the same time, he inspired with a divine love of truth, and an equally divine disregard of the storms of the ocean, and of the still more dangerous storms of the human passions, blinded by ignorance, and roused to dreadful violence by religious bigotry, moved in its turn by its own miserable fears — the fear lest some new truth should overthrow some old one, and the fear that the God of truth would not hold up it and its friends against the most violent opposition of human opinion and human authority.

If this mode of regarding the objects and the province of the sacred volume, commend itself to the mind of any one, such a one will consider the book as containing a divine revelation of *moral*, but as of no other than human authority, in respect to matters of *physical* science, or natural philosophy; and will understand the sacred writers, when treating of these topics, as presenting them in popular language, and as exhibiting, each his own impressions or opinions, or the opinion or doctrine that was prevalent in his age. And if we take this ground, we may follow without any embarrassment from God's holy Book, those teachings which he is giving us in his equally holy earth and heavens, in his holy light and air, and in the imprint of his holy hand which the lovely face of the sky, the flinty tablets of the quarry, and "the dark unfathomed caves of ocean bear." And this he may do without fear, though there may still be some who, not seeming to consider that the most impenetrable substances make the loudest echo, will con-

tinue to echo the cry of infidelity, and will believe, and affect to lament, that an attention to physical science is apt to lead to skepticism and irreligion.

No, — I deny the charge that natural philosophy is at war with moral philosophy. I deny that, as matter of fact, the scientific — I say not the literary — men of any age have been the irreligious men of that age. As in considering the *moral*, I appealed, so now in considering the *religious* influences of natural science, I appeal to the history of scientific men. Have they been the profane, the impious, the bad, the irreligious men in any allowed meaning of that term? They may not have been learned theologians; they may not have been keen polemics, or zealous sectarians; they may never have signed a creed, or seen one; but, that they have generally or often been irreligious men, in that they have spoken or thought irreverently of God, or have felt, or in their lives have manifested, a hostility to his will, is what has not been proved, and what cannot be.

And that the tendencies of physical science are not to make its followers acute polemics, and zealous sectarians, but rather to imbue them with the spirit of a temperate, rational, catholic religion, so far from being an objection to it, is one of the strongest, as I have made it the last, of my arguments in its favor. That it has this elevating and liberalizing effect upon the religious sentiments, I dare appeal to the experience of the greatest and best men of whom even sacred history has left us the memorials, as well as to that of every one who hears me.

We shall say little indeed of the physical *science* of the old prophets and servants of God, in the sense which we give to the word science, in these days. But, those men, as we need not be told, were in habits of frequent communion with the *objects* of physical science, and delighted to subject themselves to their influence. We know that they frequently withdrew themselves from the society of men, to the lonely wilds of Judea; and in its caverns, or on its hill tops, held communion with the true God, as his voice was heard in the thunder, or as the trees bowed before him and whispered of his presence, or as he was heard by the first of our race, passing through the garden in the cool wind of evening. The sublime height of Carmel, the barren solitudes of Horeb, and the awful summits of Sinai need but to be named to remind you of the relig-

ious influences which those men felt, and for which those places were propitious. Shall I open the magnificent book of Job, or spread before you the volume of the Psalms, in which the religious feeling of the ancient Hebrew seems to have been embodied and embalmed, and show you how often the most sublime and devout of the ancient bards point us to the works of God, on earth and in heaven, as leading men to the knowledge of him, and as breaking forth in his praise? Shall I remind you that the wisest of Israel's kings "spake of trees, from the cedar-tree that is in Lebanon, even unto the hyssop that springeth out of the wall; that he spake also of beasts, and of fowl, and of creeping things, and of fishes?" Or shall I give you an extract like this from a sermon of one "greater than Solomon." "Behold the fowls of the air; for they sow not, neither do they reap nor gather into barns; yet your Heavenly Father feedeth them. — Consider the lilies of the field, how they grow; they toil not, neither do they spin, and yet I say unto you that even Solomon in all his glory was not arrayed like one of these," — to satisfy you that we have something to sustain us in the opinion that the objects of physical science, and, therefore, the science or knowledge of those objects, must exert an influence favorable to the culture of the religious sentiments, and to the formation of the *religious* character?

And what says our own experience? Have we been endued by the Author of Nature, with no portion of that spirit, or of a spirit congenial to that, which lived in the bosom of Abraham, when he sat under the oak of Mamre and was visited there by the angels of God? — the spirit which led Isaac forth into the field to meditate at eventide, and by which Jesus was moved when he went forth alone to bow, all night at the unhewn altars of a mountain? Do we not know, for have we not felt the religious influence of the mountain, — of the cloud, wrapping us up in its wet folds, and then rolling away from around us with its thunders; — of the broad landscape, holding up before our eyes hills and valleys with their waving trees and growing grain? — the influence of swelling buds, and of opening or falling leaves, of dark forests, of the ocean's mighty voice, of the soft sweet breeze, the hurrying torrent, and the thundering waterfall? True, the solitary beholder of these scenes, — for their beholder should be alone among them, and if he

mingles with them for the purposes of scientific research he *will* be alone — may not, or he may, lift his *voice* in praise, or bend his *knees* in prayer, while he is worshipping on the hill top, or in the groves — the groves that "were God's first temples:" but his *heart* will be bowed. His spirit will be holding communion with the Infinite and Invisible Spirit who is presiding over all, and living in all, and moving through all.

He, on the other hand, who does not commune with God's works, who does not in the language of the young friend of Job, "stand still and consider the wondrous works of God," cannot and will not long hold true communion with the true God himself. He who shuts his eyes upon God's creation, and will not see in it the God which it reveals to him, will soon worship a God which his own gloomy imagination has formed; will soon create a Creator for himself, and fall down and worship *him*. But he who joyfully and reverently studies the works of God, has always in his hand a key, with which he can unlock the treasures of the sacred oracles, a volume, which, without a knowledge of physical science, is often a sealed book; and with which he can, moreover, unlock the sanctuaries in which the Creator holds audience with his creatures, and gain admittance to the real presence of the Holy One. He who will consent to be instructed by those things which have proceeded immediately from the Creator's hand, and to "be taught of God" through them, knows that he can never be without most pleasant and most faithful teachers. He knows that the glorious and beautiful witnesses of God's goodness and universal providence will come up around him for his instruction and guidance so long as his earthly pilgrimage shall last. And he knows, moreover, that when that pilgrimage shall have closed, the spirit that has found its nourishment and support in the works of God, though "the earthly house of its tabernacle may be dissolved," *must* be surrounded by the works of God still; for, wherever the spirit of man *can* be, there the spirit of God *must* be; — that wherever God is, he works; — that wherever his works are, and whatever they are, they must be full of beauty and benevolence, and must be a proper subject of attention and serious thought; and he knows that wherever the works of God are seen and understood by the soul of man, they must be felt, and *that* feeling must be happy.

LECTURE V.

ON THE

TEACHING OF PENMANSHIP.

BY B. B. FOSTER.

TEACHING OF PENMANSHIP.

SECTION I.

PRELIMINARY REMARKS.

I SHALL endeavor, in this Essay to point out, in a plain manner, the most effectual mode of teaching the art of Writing. The method pursued, will be to lay down, in their natural succession, the rules which experience and reason have approved as the best for communicating the art, from its first elements to the attainment of the greatest elegance and expedition; and such practical remarks will be interspersed, as may incidentally occur.

Two things are essential to skill in this art.—FIRST, *A knowledge of the forms and proportions of the letters*; SECOND, *The power of executing these letters on paper.*

It must be apparent, on the slightest examination of the subject, that both the above requisites are indispensable to make a good penman. If a person be deficient in the *first*, although he may possess inimitable ease and freedom in the use of the pen, his performance will displease, from its want of just proportion and symmetry of parts. If he is wanting in the *second*, however correct the form of each particular letter, there will be no freedom or grace in the general aspect of his writing.

It would be highly advantageous to learners if they could be first thoroughly instructed in the forms and proportions of the letters, before undertaking to execute them. They would then have but one thing to learn at a time; whereas, they are now embarrassed

with all the niceties of form and proportion, at the same moment when they find their whole power of attention little enough to encounter all the difficulties of a correct posture, and manner of holding the pen, and the other requisites for good execution. Yet with the very young, a theoretic knowledge is too often no knowledge at all, and it is therefore generally found expedient from the outset, to suffer the pupil to learn the form of each letter, by making it with a pen. Thus, both the requisites above mentioned, are acquired simultaneously. Admitting this to be a necessary evil, the principal objects of attention arrange themselves in the following order:

I. *The position of the body.*
II. *The position of the paper.*
III. *The manner of holding the pen.*
IV. *The form of the letters.*
V. *The movements by which the letters are executed.*

I. Great attention should be paid to the position of the body. This, and the second and third of the objects just enumerated, may to some appear unimportant, but they are far from being so. They cannot be too carefully attended to, as the neglect of either of them will retard the progress of the pupil, and in the end, prove a serious obstacle to his acquisition of a free and elegant current hand, which, of course, is his ultimate object. If, in these particulars, he be suffered to begin with wrong habits, they will grow upon him, and he will not afterwards be able to shake them off without much pains and trouble. It is much easier for him to form correct habits in the beginning, than, in later life, to divest himself of bad ones. I would earnestly press the remark on the consideration of every one who honors these pages with a perusal, that very much of the pupil's success depends upon attention to seemingly minute points, when *first beginning* to write. Deviations from a judicious course commenced at that period, are apt to be followed by the worst consequences, and often, the evil done is without remedy, from the fixedness of the habit.

The pupil should sit in an easy, upright posture. His seat should be near the desk, so that he may not be obliged to reach over, and the desk should not be quite so high as the level of his elbow when his arm is drawn close to his side. Thus he will escape all the evils

attendant upon a distorted position; which are, first, discomfort and constraint, then pain, and lastly, disease. For when, as is too often the case, the head is thrown forward, and the chest contracted, and this posture becomes habitual, it is unquestionably the source — especially with those who write much, — of many diseases of the lungs, which not seldom terminate fatally. A more natural posture would not only be more healthy, but would give greater freedom in the management of the pen. The body should bend a little forward, but should by no means press against the desk. The left side should be brought near the desk, the feet placed obliquely, in the same direction with the slant of the writing, and the weight of the body supported by the left arm, so far as necessary to be supported by either. The right arm should rest *lightly* on the desk near the elbow, and be kept three or four inches from the body. The position just described gives the body a firm attitude, affords the right arm an easy play, and allows it to move with perfect liberty.

II. The paper should be placed directly in front of the right arm, and parallel with the edge of the desk. This is recommended not only by my own uniform experience, but by the opinion of the most judicious writers.

III. The next thing to be attended to is the manner of holding the pen. This is a matter of the first importance. The teacher should not suffer the least inaccuracy in this respect to escape notice and correction. For although it is very laborious, and requires great patience, to regulate the position, paper, pen, &c. as often as is necessary, yet the correct method in all these matters must be acquired before the pupil can ever attain to any excellence in the art. The teacher should be constantly at the pupil's elbow, for if left to practise alone, he will be liable to continual error, and there is no limit to the mischiefs flowing from a wrong beginning. The pen should be gently held, not tightly grasped, between the thumb, and first and second fingers. *Little* children should keep the second finger nearly half an inch from the point of the pen, but pupils of ten years old and upwards, about one inch from the point. The hand may be supported on the top of the little finger, keeping the one next to it bent inwards; or if the pupil prefers, it may be supported on the ends of the third and fourth fingers, inclined towards

the palm of the hand. In either of these positions a free, unfettered hand writing may be acquired. There is a trifling rule, which if attended to, would keep the pen in its right position, viz. that the top of the pen should always point to the right shoulder.

IV. The next object is, to gain a familiarity with the forms and proportions of the letters. The general convenience which teachers find, or imagine, in beginning their instructions on this head, at the very same time when they first put a pen into the hand of the pupil, induce me in the foregoing remarks to concede that the use of the pen and the forms of the letters might be taught together. In my humble opinion, they would more thoroughly, and more easily be learned separately. I am far from recommending that the forms of the letters should be taught by mere verbal instruction. But every person of observation must have remarked, that almost every child, before he is brought to a desk, in order to be taught to write, amuses himself with making pictures, or more properly scrawling figures with such materials as he can lay his hands on. This natural inclination requires only to be properly directed, and the shapeless figures may be made to assume proportion and symmetry. Let the pupil continue to use the slate and pencil, or paper and lead pencil, to which he has been accustomed to resort for childish diversion; or, if more convenient, let him be provided with a black board and chalk. The teacher should then exhibit the forms of the letters by practical exemplifications, on a large black board, placed in full view of the class. The pupil should be requested to inspect each letter with care, and then to imitate it as nearly as possible, with the materials before mentioned.

The letter *o*, will probably be found the most convenient for reference, as to height and proportion; thus, the height of the *n* is the same as that of the *o*, and the distance between its principal strokes is the width of the *o*, &c. These proportions should be well impressed on the pupil's mind, by examination with question and answer, following his imitations of each letter. The same method may be extended from the simple elementary characters to their various combinations, and will, I think, be found the shortest and most effectual method of impressing the pupil with correct ideas of the forms and proportions of the letters.

Any teacher, who pleases, may, of course, allow his pupil to use the pen in the process above described; but I should myself advise not to use it yet. It may naturally be asked, since penmanship is to be taught, why not give the pupil a pen from the first? The answer is ready,—that it is desirable for a child to have its whole attention confined to a single object at a time. If we give a pen to the young pupil at his first lesson, his attention is alternately occupied by two objects, each of which is new, and consequently difficult to him,—the manner of holding his pen, and the form of the letters. The distraction of mind which follows this constrained attention to two things at once, is apt to produce the ill effect, that neither is learned well or easily; and this is entirely prevented by simply teaching one thing at a time.

First, therefore, let the pupil learn the forms of all the letters by using any of the materials mentioned above; and afterwards, when these are perfectly familiar, let him take a pen, and he will then have nothing to do, but to learn the use of that new instrument. These observations, it will at once be perceived, apply only to beginners. Those who have been accustomed to the use of the pen, may with propriety continue to use it, in improving the forms of their letters.

Particular directions as to each letter, can only be given by the teacher, in practical lessons. The general rules under this head, which should be continually urged upon the pupil's attention, are the following:

1. That his strokes be made straight.
2. That they be parallel.
3. At equal distances.
4. With equal proportions.

Even these are too abstract for young beginners, without practical illustration; with the aid of that, a judicious teacher may make them intelligible to very young children.

V. The principal movements by which the letters are executed are three. Although they do not come fully into use, with all their combinations, *until the pupil attempts* CURRENT HAND WRITING, yet he should from the beginning be made acquainted with them, and thus be enabled to call them into use, as soon as the proper occasion arises.

1. The first movement is that of the whole arm. It may be either perpendicular or lateral. When perpendicular, it accustoms the pupil to preserve the correct position of the hand and pen, and to move his arm lightly on the table. When lateral, it gives great expertness and rapidity of execution.

2. The second movement is that of the fore-arm, without a separate movement of the fingers. It is a simultaneous, connected movement of the hand and fore-arm; the muscles of the under part of the arm playing, but not sliding on the table; the nails of the third and fourth fingers gliding on the paper; the wrist elevated a little, not exceeding an inch. By means of the extending and contracting power of the muscles of the fore-arm, without changing its place on the table, a remarkably free, bold, and commanding movement is obtained.

3. The third and least movement is that of the fingers, and is so simple as to require no particular description.

The *first combination* of the movements is the addition of the movement of the fingers to that of the whole arm. While the wrist should never, either in this or any of the movements or combinations, touch the table, the arm should never in any of them be raised from it. Observing these directions, the fingers cannot be too freely used.

The *second combination* is the addition of the movement of the fingers to that of the fore-arm. In this combination, the fore-arm rests on the edge of the table, near the elbow. The difference between this combination and the first is, that in the first, the whole arm moves upon the table, the elbow regularly following and nearly coinciding with the movement of the hand; but in the second, the fore arm, although it moves upon the table, remains stationary near the elbow. In writing by the second movement, or by the second combination, the learner must slide his arm, laterally along the table, at convenient distances, so that his hand and elbow will always be in a line with the place where the word is to be written, and parallel with the sides of the paper. At each remove, he will again rest his fore-arm on the edge of the table, near the elbow, and write the next word or words, as far as convenient; and so on to the end of the line.

The *third combination*, is the union of the first and second, not simultaneously, but in succession.

The first and third movements are all which are essential to the beginner, because they are the only ones requisite in the careful and deliberate writing of large hand. The introduction of the second movement and its combinations to the notice of teachers of this art has been brought about by the zeal and ingenuity of Mr Joseph Carstairs, of London, who deserves high credit for insisting on the importance of acquiring, from the first, the mastery of these combined movements. By obtaining such a mastery, the most valuable advantages are secured. The practice of frequently lifting the pen, which is incompatible with bold and free writing, is avoided. Strength and steadiness of hand are acquired. The great fault of turning the hand over to the right, and jerking it from point to point, to keep pace with the progress of the writing, — which may be considered as a concentration of all the vices of the common system of teaching, — is entirely eradicated ; and in place of it, uniformity, grace, boldness and rapidity are obtained. The arm moves along insensibly and without effort, by the very act of forming the letters.

Although great perseverance is necessary to acquire these movements thoroughly, yet there are powerful encouragements to effort and patience. For success is certain, and the pupil sees it ; and there is besides, a bewitching allurement in practising the exercises, growing out of his plain perception that at every step he is accomplishing great things, in the acquirement of power, in eradicating vicious habits, and in making steady and permanent advances, towards becoming an expert and elegant penman. In connection with what has been said on the subject of movement, the following rules should be carefully inculcated upon the pupil.

First. That he should be able to move the hand and arm, in every direction with equal facility.

Second. That an habitual movement of the hand and arm should be acquired, equally applicable to every letter of the alphabet, and producing by its own tendency, the same inclination of the letters and the same distance between them.

Third. That the pressure of the pen on the paper should be

light and easy, to promote uniformity, both in motion and in the general aspect of the writing. It will be observed, however, that the above rules are mainly applicable to expeditious *current hand writing*.

This subject of the mechanical movements necessary to execute every piece of writing is the most important branch of the art. A man may have a correct taste and judgment in writing, or in any other art, without being skilful in the practical exercise of the same art; but the power of executing well, almost necessarily presupposes a just idea of the thing to be executed. The attempt to execute a piece of writing, naturally leads the mind to reflect on that which the hand executes, that is, the forms and proportions of the letters. So that it is plain, that one may have a knowledge of the forms of the letters, and yet be deficient in the power to execute them; while on the contrary, one is not likely to have what is usually termed a *command of hand*, — a power to execute well — without combining with it a correct idea of the forms of the letters. Execution, then, ought much rather to be the object of the teacher's attention than the mere forms of the letters. The growing taste of a pupil will gradually correct the imperfect, awkward, or fantastic forms he may have given his letters; but it is not so easy to acquire a masterly command of hand by solitary practice, where the foundation was not well laid, in the acquisition of the easiest and most natural movements of the hand and arm. Nor can it be doubted, that this is a principal reason why many continue through their whole lives to write very badly, notwithstanding that they have a great deal of writing to do.

SECTION II.

LARGE HAND.

The pupil having been fully instructed in regard to the posture of his body, the position of his paper, the manner of holding his pen, the forms and proportions of the letters, and the movements by which they are to be executed, may now begin to practise

what he has been taught. The copy-book for large hand should be ruled with horizontal lines $\frac{3}{10}$ of an inch apart, and oblique lines about $\frac{4}{10}$ of an inch apart, forming an angle of 56 degrees with the horizontal lines. The pupil should commence with making straight strokes, and practise them till he can hold the pen correctly and execute them easily. The correct formation of this first stroke, is of more importance than is usually imagined. The simplest things have their difficulties; and the circle drawn by Appelles, equally displayed the wonderful skill of the master as the finely chiselled foliage of the Corinthian Capital. The letter *i*, written $\frac{6}{10}$ of an inch in height should be the second copy, and the first stroke of the *m* the third copy. The last stroke of the *m* should be the fourth copy, and the same stroke doubled the fifth copy. These preliminary exercises contain the most important elements of English hand-writing. From them, together with the *o*, singly or combined, a majority of the letters of the alphabet may be formed. They must therefore be practised with the copies before the learner, till they become perfectly familiar. The pupil should write two or three pages of one copy before beginning another, but not without having each line carefully corrected. Every letter should be examined, its errors pointed out, and corrections made by the teacher.

The practice of writing straight strokes alternately with other copies, has a very good effect. It affords the pupil a variety which prevents him from soon becoming weary, and at the same time it disciplines his fingers and hand, and enables him to form the short letters with ease and correctness.

Let the pupil learn to "make haste slowly." Instead of being indulged in that prurient desire which children so often display, of advancing to something new, before they have half mastered the old, they should not be suffered to begin on a new letter, till they can execute the previous exercises tolerably well. They should be led by slow and sure gradations, from the simplest to the more complicated characters.

As to the size of the writing, I cannot too strongly recommend, that the pupil should make the elementary characters very large at first; they should be written frequently from one to two inches

in height. As this length can only be reached by moving the arm, the smallest children will find no greater difficulty than grown persons in making the characters. I am convinced from the most decisive experiments, that nothing has a greater tendency to promote the speedy attainment of the art, than the practice here recommended. It strengthens the muscles of the fingers and hand, prevents all cramped and effeminate habits, gives great facility in executing all sizes of writing, and prepares the pupil to write a current hand with freedom and ease. It serves also to fix in the mind a just idea of the exact proportions of the several parts of the letters, at the same time that the pupil is insensibly obliged to move his arm up and down in forming them, as it will be impossible, from their length, that he should make them by resting the hand and arm, and moving the fingers alone. Thus the arm is gradually habituated to a steady and continued movement, which is perhaps the greatest accomplishment of a penman.

When the pupil has acquired the ability to write the large text hand, with ease and correctness, he should commence the study of the capital letters. Practice upon these will give additional freedom to his movements, improve his taste and accelerate his general proficiency in the art. He should write several copies of each letter, till he can make them not only with accuracy, but with a considerable degree of neatness and taste. The pupil should next write an alphabetical set of copies, in large hand, though not of the extreme height above mentioned, beginning each word with a capital letter; and let this be continued, till he can make the turns similar to each other, all the joinings at their proper places, and all the letters of a uniform slope. Master and pupil will do well to recollect, that he who aims at writing small hand well, must perfect himself in large hand; for every man will be found to write small hand exactly as well as he can write large hand, and no better. Let not the pupil, therefore, think of attempting what is called "*fine hand*," till he can write handsome copies of the largest size. This accomplished, he may proceed to the writing of half-text, or medium hand, which, being well grounded in large hand, he will soon be able to execute neatly and correctly. He may then write, alternately, a page of half-text, and a page of small round hand,

but should his writing become feeble and irregular by reducing it, let him return to the large text and capitals, which will speedily correct it. The large text hand, the half-text, and small round hand, are principally written by exactly the same movement, viz. the movement of the fingers. The capitals, however, and the letters of an inch or more in height, should be written by the combined movement of the arm and fingers. The movement of the fore arm, and its combinations, do not come into use till the pupil undertakes current hand writing. I add here a brief analysis of the course recommended in the foregoing remarks.

1. Practise the elements, separately, till they can be formed with ease and correctness.
2. Join them into letters, and practise upon each, till all the letters of the alphabet can be written with accuracy.
3. Write an alphabetical course of large hand words.
4. Write a page or more of each capital letter.
5. Write an alphabetical set of words in large hand, each beginning with a capital.
6. Go through a similar course with the half-text hand.
7. Write a page of half-text and small round hand alternately.

SECTION III.

CURRENT HAND WRITING.

Thus far, the observations that have been made, have kept mainly in view the formation of a handsome large text hand, which I suppose the learner to have now accomplished. Yet it must always be recollected, that however desirable it may be to write large hand well, it is not in itself an end, but only the means of attaining the real end of learning to write, viz. the acquisition of a quick and elegant *current hand.* One might be able to make out an invoice, with all the neatness and finish of a copperplate engraving; yet, if it took him a whole day to do it, the writer would be dismissed from the counting house as useless.

There are three qualities essential to fine penmanship; legibility, elegance and expedition. The first two are all that can be acquired in learning to write a large text; the last, which is no less indispensable than the others, must be the object of separate and particular instruction. The principal defect of the common systems of teaching the art of writing, is, that the instructor stops short of that which has just been stated to be its only end, the acquisition of quick or business hand-writing. It has been often maintained, that nothing but practice was necessary to give such a hand-writing, and that all instruction was superfluous. After being initiated into what may be called the "*slow stiff hands,*" the pupil is accordingly dismissed from school, to acquire a business hand as he best may, by random efforts, or not at all. Mr CARSTAIRS, of London, is entitled to the credit of practically demonstrating, that this view is entirely erroneous, and that expeditious and uniform writing is the sure result of certain mechanical movements of the arm, hand and fingers, which can be taught by the master, and imitated, and perfectly acquired by the pupil, and thus, a business hand attained at school.

It will be found, on observation, that almost every elegant and ready penman, often without being conscious of the fact, uses the fore-arm and arm, as much, and as readily, as the fingers, and the more so in proportion to the rapidity of his execution. The reason is obvious; the muscles of the arm being much stronger than those of the fingers and thumb, are not so soon wearied, and the movement that is the least fatiguing, is insensibly adopted, by one who is constantly practising the art. Besides, as the words proceed from left to right, it is evident that any one, who depends on the use of the fingers alone, without a simultaneous movement of the arm, or fore-arm, will be unable to write a word extending an inch or more upon the line, without having his hand gradually thrown over from left to right, in order to allow for the action of the pen upon the paper. The third and fourth fingers remaining fixed, while the other two are carrying the pen to the end of a long word, the hand and fingers are painfully cramped and strained. On finishing a word, moreover, the hand is jerked along, and the under fingers made to take up a new position. This they retain till the hand is gradually turned nearly or quite over, and the fingers that hold the

pen, are again stretched as far in advance of the others as they can bear, when a new jerk is given to the hand, and so on till the writing is finished.

Let any one, whose penmanship is very bad, observe his own mode of writing, and in nine cases out of ten, he will find that he bears the weight of his arm upon the wrist, and uses the two last fingers as a fixed prop. Thus his writing is uneven and crooked, and so long as he leans upon his wrist, how can it be otherwise? The radius of the circle of motion is very short, reaching only from the end of the third and fourth fingers, which are fixed, to the point of the pen. The centre of motion is changed every time he lifts his wrist, and his writing continually tends to take the form of successive segments of small circles; to prevent which, he is obliged to make constant efforts to keep a straight line, and thus wearies and pains his fingers. The root of the principal faults in the common methods of teaching penmanship, seems, therefore, to be this:—*that the pupil is directed, or permitted, to rest the wrist, and generally, also the third and fourth fingers, and to execute the writing with the fingers alone.*

Some persons sensible of the difficulties just mentioned, and desirous to avoid them, take off the pen and move the hand at the end of every downward stroke; the effect is indeed to keep the writing tolerably straight and uniform, but it is destitute of a graceful and easy flow. Still worse, no one can write rapidly on this plan, and hence it can never be adopted by the man of business.

The only certain means of avoiding the difficulties above mentioned, and to gain a flowing, rapid hand, is to study and practise the *movements* by which quick writing is performed. These, with their combinations, have already been briefly described (p. 94) and three rules laid down (p. 95) embracing the principal objects of the several movements. To these rules a fourth must here be added, which was not inserted before, because of its exclusive application to current hand; *that the pen should not be taken off in any single word, and may be continued, if required, from one word to another through an entire page.* The reader is referred to what has been said above on this subject; but to obtain a good current hand, the pupil must not content himself with general rules, but must practically acquire a mastery of the movements and combinations described.

1. In the first place, the pupil must learn to use the pen freely in forming any letters by the movement of the arm alone, entirely independent of the movement of the fingers. To effect this, the *horizontal* copies which the pupil has hitherto used must be abandoned for a series of exercises* in perpendicular columns, and the whole of each column must be executed without lifting the pen. This enables the learner to preserve the proper position of the hand and pen, and compels him to keep the arm light and movable; and he may advance gradually from a single, easy letter to the longest and most difficult combinations, extending over a whole line, and yet performed solely by the movement of the arm.

2. The movement of the fore-arm is the next object of attention. To acquire this the learner must rest the arm at or near the elbow; then the muscles of the fore-arm are brought into play, and alternately extending and contracting themselves, they are gradually disciplined to the exactness and smoothness of penmanship, by exercises† in forming oblique and horizontal ovals, and afterwards, letters and words. The learner must begin by making ovals, continuing the pen on the paper, and going round repeatedly on the same outline, as quickly as possible, but with a uniform, equable movement. When the oval can be made with neatness and precision, the learner may try letters and short words. Each word must be written without lifting the pen, and care must be taken in writing them to preserve the same movement that produces the ovals; that is, as the pen moves on the paper, the under fingers must be kept in full play, and follow the same movement, so that if another pen were fixed to them, both pens would produce the same word at the same time. The horizontal ovals are well calculated to give the hand a free action from left to right, and from right to left. The oblique ovals will give a peculiar facility in executing the capital letters.

3. After great facility in the movements of the hand and fore-arm is acquired, the movement of the fingers is permitted. This

* For specimens of the exercises here recommended, the reader is referred to "*Foster's Developement of the Carstairian System*," plates 8, 9, 10, and 11.

† See "Foster's Developement," plates 12 and 13.

is comparatively easy, from the great flexibility of the muscles of the fingers; so that in general it is only necessary to leave them at liberty, and they will be sure to come in aid of the hand, whenever their aid is required. It is therefore better that the use of the arm and fore-arm should be first taught; and till much facility is gained in using them, all use of the fingers in *Current Hand Writing*, should be postponed. Even when the fingers are allowed to be used they are not suffered to execute the whole writing, but only the upward and downward strokes of the letters, while the connecting hair lines are formed by the lateral movement of the arm or fore-arm. Thus, whenever the fingers are used, the writing is executed, not by a single, but by a combined movement, of the fingers and arm, or of the fingers and fore-arm.

To avoid all misapprehension on the head of the movements and their combinations, a clear understanding of which is indispensable in acquiring an elegant business hand, a brief summary of them is here presented, with their appropriate exercises.

1. The *first movement* is that of the whole arm in all directions. To acquire it the learner should practise exercises in perpendicular columns, where letters or syllables are connected, from the top to the bottom of the page, by means of loops.

2. The *second movement* is the forward and backward, and also the oblique play of the fore-arm, while the arm rests lightly, near the elbow. The suitable exercises are the oblique and horizontal ovals.

3. The *third movement* is that of the thumb and fingers alone. Exercises proper to give this movement are all common sized large hand, formal small hand, and all studied writing, where great exactness is required in the forms of the letters.

The *first combination* is of the first and third movements, and may be practised in all sizes of writing.

The *second combination* is of the second and third movements. It may be used in all sizes of writing, not exceeding two inches in height, in free running hand and all quick writing.

The *third combination* employs all the movements, but in succession. The capitals may be executed by either of the movements or combinations, according to the fancy of the writer.

Having gone through with the practical process of teaching, I

will close this essay with a few general observations. I remark in the first place, that the art of writing does not receive that attention in our country, which its usefulness merits. Although mainly a mechanical art, yet it is of such universal convenience and necessity, that it is hard to find a person so humble or so exalted as to be able to dispense with it. If then it must be learned, let it be learned thoroughly and systematically, for such a method will be at once the *cheapest, shortest, and most advantageous* to the learner. But in order to acquire the art in this manner, such teachers only must be employed as are in fact, as well as in profession, masters of their business. At present, I regret to say, such persons are rare. Every individual who undertakes to teach a common school, at once becomes likewise a teacher of writing, and the consequence naturally follows which might be expected, that a very small proportion of the youth who leave our schools are able to write a tolerable hand. To remedy this evil we should "begin at the beginning," and teach the teachers. Schools for this purpose should be established in our principal cities, and they would be attended with manifold advantages. Among them are, that the art would be thoroughly, not superficially taught; that such improvements as the taste and intelligence of the age suggest from time to time, would be adopted after due scrutiny; and that the country would be saved from much waste of time and money, which are now bestowed on itinerant and empirical pretenders, who, marvellous to relate, undertake to teach the art "to persons of all ages, in six or a dozen easy lessons!!"

When the age and circumstances of the pupils will admit of it, it would be found most advantageous, that they should learn to write in a school where that branch alone is taught. In our common schools, it is so apt to be undervalued in comparison with other branches, with which the teachers are, perhaps, better acquainted, that the pupil soon slights it as much as his master. It would be restored to its proper importance, if taught by itself. If this cannot be, a particular hour should be set apart for writing, in which the attention of all should be exclusively devoted to it. Previous to the arrival of the hour, the copy books should be ruled, the pens prepared, and everything in readiness for proceeding un-

interruptedly with the writing. And I would here suggest, that it is but a miserable economy which furnishes pupils with the inferior paper and quills that are so often to be found in our schools. The materials for writing should be of good quality; else the time of master and pupil are wasted in preparing pens that were never fit to write with, and the learner is discouraged with the unsightly appearance of his best efforts, on rough and coarse paper. The time occupied should not exceed an hour at once, particularly with very young pupils; otherwise, their attention and patience are exhausted. Above all, every line should be examined and corrected by the teacher, before the next is written, so that the errors of one may be amended in the next. If a stroke is crooked, a line should be drawn straight through it with a pencil, that the pupil may more plainly *see* the deformity. If a letter is improperly shaped, let the same letter be written in pencil over his, to show him the difference. If the tops or tails of his letters are unequal in length, let a horizontal line be drawn through them, to show that inequality. If one letter is wider than another, or any letters are unequal in distance from each other, let them be measured, that he may observe the disproportion. In the next line he writes, let him be requested to correct these, and similar errors. If any letter is made particularly ill, let him write a line or two of *that letter* only, till he can form it corectly. Each pupil in the class, should be visited in rotation, and his writing carefully examined, before he is allowed to proceed with a second line; otherwise he will go on heaping error upon error, till his faults have become habitual, perhaps beyond remedy. Nothing can be more pernicious than the custom that prevails, in too many schools, of giving the pupil a copy, and allowing him to write a page of it without examination, and, indeed, without the superintendence of the teacher, except, perhaps, an occasional recommendation to look at his copy, or to "mind his writing."

It will doubtless be said in excuse of many industrious and conscientious teachers, that they are aware of the mischiefs resulting from an omission to scrutinize each line and word, that is written, but that they have not the time; they have thirty, forty, or fifty pupils, and while attending to one, a dozen are idle and impatient.

This is indeed a serious evil. For so close and assiduous is the attention which the instructor ought to be able to bestow upon his pupils, at least, in their first efforts in the art, that he can hardly find time to teach more than *six* in the same hour, with the greatest industry. When they are a little further advanced in the art, he could easily attend to a few more, but ought not, if it can be avoided, to undertake a class of more than twenty at one time. As, however, comparatively, few pupils can afford to pay a teacher who would confine himself to a very small number, and the great majority of pupils attend public institutions, or free schools, where fifty or more may have but one teacher, I earnestly recommend to instructors to adopt the following plan. Let the teacher select a number of his more advanced pupils, and instruct them particularly and carefully in all the minutiæ of the art, till they are sufficiently expert to assist as monitors. Let him, then, divide his school into classes of six pupils each, and assign a monitor to each class. It should be the duty of the monitor to correct every error with a pencil, and give all such assistance as might he required, which the limited number of each class would easily enable him to do. This arrangement would be as advantageous for the monitors as to be employed in writing copies; and at the same time it would leave the teacher free to go from class to class, and see that the monitors did their duty, and that all the school were constantly employed in the manner best suited to their respective ages and capacities. For after all, steady and well directed application, is, in the art of writing, as in every other art, the master key to success.

What Horace said to the poet, I repeat to the penman;—"*Nocturnâ versate manu, versate diurnâ.*"—"Practice your hand by day, and eke by night."

LECTURE VI.

ON THE

NATURE AND MEANS

OF

EARLY INTELLECTUAL EDUCATION,

AS DEDUCED FROM EXPERIENCE.

BY A. B. ALCOTT.

"Man, the servant and interpreter of nature, understands and reduces to practice just so much as he has actually experienced of nature's laws; more he can neither know nor achieve."—*Bacon.*

EARLY INTELLECTUAL EDUCATION.

Education, in its widest scope, embraces a view of man, as an organic, affective, intellectual, moral and spiritual creature; together with the means of unfolding these different orders of powers, and of adapting their agencies to man's relations, both present and future.

Into this broad field it is not my present intention to enter. The amplitude of the subject precludes the idea of attempting even a general survey of its leading features, on an occasion like the present. A single department, viewed in its more obvious relations, can only be presented for present remark.

The early education of children has been assigned for this purpose.

But even this diminished view of the subject is too extensive to be completed within the limits of a single lecture. Early education, in itself, opens a wide and varied subject for examination. It implies an investigation of the human being, in its primal stage of existence, as the means of evolving those agencies which determine juvenile tendency and habit, and establish the laws of instruction. Its objects are to discipline desire, to form and mature habit, to instil ideas, and to impart motives. In its widest sense, it is the uniform development of the child's nature, by which he progressively experiences himself, and his relations, and is prepared for self-guidance, and self-education.

Volumes would be inadequate to the full investigation of this subject. Without examining other interesting departments, I shall

confine myself to *a view of the nature and means of early intellectual education, as deduced from experience.* In this endeavor, I shall be as practical as the subject will admit; offering, occasionally, in illustration of general views, the results of some experience in early discipline and influence. To these I shall advert, however, rather as examples, than as models of instruction.

The object of early intellectual education is, to discipline the mind for the acquisition of knowledge, and the verification of experience. Its influences are directed to the formation of intellectual character. Its materials exist in the outward world, analogous to the child's mind, and designed to unfold and mature his powers by inciting observation, association, and thought; which, yielding the fruits of knowledge, truth, and wisdom, enable him progressively to ascend toward energies and causes, into the pure region of abstraction, ideality, and verity.

Education embraces a view of all those influences which the child experiences from the condition in which he is placed. In directing our attention to those which operate on the intellectual nature, we may regard, —

I. *External education, embracing a view of the nature and materials of outward influence.*

II. *Internal discipline, as the means of forming and maturing intellectual habits.*

III. *Instruction, by the instillation of knowledge, as connected with the study of specific branches of science and art.*

Commencing the examination of our subject, we notice, —

I. *The nature and materials of outward influence.*

The influence of circumstances is powerfully operative on the young mind. Children are exposed to their perpetual agency. Operating on sensation, they transfuse ideas into the pliant mind, and become the materials from which early experience is derived. They form the atmosphere in which the child resides. His susceptible nature is fed and sustained from their influence. As modified by human arrangement, they constitute the providence of man, and should be so adapted to the child's constitution, as to coöperate with Divine Providence in the formation of the juvenile mind. It is by such adaptation, that an outward power is pressed into the service of education.

Circumstances, being thus rendered analogous to the intellectual nature, stimulate the child's faculties. They deepen, diversify, and consolidate his experience, preparing his mind for intellectual labor. By awakening curiosity and faith, they elicit observation, and direct his mind toward the analogies by which he is surrounded, inciting him to interpret, verify, and confide in them. Adapted to his nature, they develope his powers in unity, and thus establish within it a connected and analogous experience, as the foundation for future attainment. Cherishing purity and freshness of character, they infuse into the mind the spirit of happiness and application. Order and harmony thus prevailing without, the mind imbibes the influence, and operates with facility, efficiency, and pleasure.

In taking a rapid glance at intellectual influences, as derived from outward sources, the adaptation of *society*, *objects*, and *books*, to the young mind as materials of instruction, will be successively regarded.

1. Of provisions for mental cultivation none are more important than society. This is a powerful agent in education; it moulds the plastic elements of mind into form and shape. The child, whose early days are passed in intellectual society, must acquire mental vigor and power. Motives to acquisition and thought are developed within him; he feels their upward pressure, and ascends with ease and pleasure. His intellectual being is sustained and made fruitful. The tendency to assimilation is cherished, and society becomes an aid to mental advancement. Surrounding persons favorably determine his mind. Elements of the social atmosphere, they infuse their influence into his nature, and leave their impress on his forming mind.

Society has not yet been adapted to the dependent and susceptible nature of children; and from this have arisen our failures in the guidance of the young. Too little importance is attached to the influence of example. Provisions for society, amusement, and study are quite unworthy of the young mind; and its tendencies thus neglected, instead of operating on the intellectual nature, are suffered to act through the appetites and passions. A guiding hand is not held forth to the young, and the path in which they

should travel, made attractive and interesting to them. The mind is not placed under the genial guidance of the affections. The light of intellect does not fall upon it, and it cannot flourish. The sacred analogies of nature and the deep truths of experience, as transfused through circumstances, and examples, thus lose their accuracy and purity. The rays of Divine Providence do not fall with directness on the intellectual nature, but are turned from their course by the conventional arrangements of human society.

The conditions under which study and mental relaxation are conducted, operate on the formation of mental character. Local scenery, school-rooms, and play-grounds, should, for this reason, be adapted to exert a seasonable influence on study and amusement. They are essential elements in the formation of mind. Motives to thought, application, and progress, are cherished by analogous arrangement. When outward objects incite intellectual associations, observation and study become comparatively natural. The mind sympathises with outward appearances, and truth flows into it with facility and inspires delight.

So with regard to amusement, when favored by those natural facilities which belong to childhood. Play is an important provision for mental development. It should be allowed to aid intellectual progress. Children require free and frequent communion with outward nature, and with their associates, as the means of diversifying and renovating their experience, invigorating the animal functions, and preparing the mind for willing and effective study. The indications of nature should be obeyed, and the child provided with intellectual associates, and purifying pastimes. Amusement occupies no inconsiderable part of juvenile life. It is daily sought, and daily repeated. It calls forth the child's deepest affections, disciplines his passions, gives scope to his tendencies, and elicits his freshest ideas. His early experience is, indeed, chiefly derived from the influences of amusement. What interests and occupies him so often and so long, must leave its impress upon him. It must influence his subsequent life, and from it, his character receives its deepest traces.

Play, also, by affording free scope for the general activity of the child's nature, offers occasions for the disclosure of its hidden tendencies. Freed from restriction, his character is exposed to view.

An observance of children, while engaged in pastime, or mingling with their associates, is, indeed, an appropriate means of intellectual measurement. A teacher may here perceive his successes and failures in instruction. He who has reached the springs of motive, and continues to influence the child in its hours of unrestrained amusement and activity, has succeeded in his work. The child is an intellectual being, even here.

The general reluctance felt by children to mental application, is a subject of common complaint on the part of parents and teachers; and should incite inquiry as to its cause. May it not originate in the condition under which juvenile observation and study are conducted? Our school-rooms, with some exceptions, shed few associations of happiness around the mind. Our teachers are not furnished with the needful appliances of instruction; neither have they, in all cases, that confidence in their ability to meet and cherish the intellectual wants of their pupils, which is the pre-requisite of success. Routine and restriction are substituted for novelty, variety and liberty; original and mental tendencies of childhood. Outward nature lets in but few gleams of light upon the mind. The child is subjected to a discipline opposed to his natural and simple ideas of happiness. Freedom is taken from him at his entrance into the school room. His mind is placed under the influence of unmeaning and arbitrary processes. Authority, often opposed to a benevolent and intelligent regard for juvenile ideas and feelings, is the power which he is required to respect. Simplicity and freshness of mind, are checked by reference to arbitrary rules, the meaning and purpose of which are remote from his experience. These influences destroy the vigor and freshness of his nature. The school-room and its employments, are associated in his mind with formality and unhappiness: the few short hours of play which he is allowed, become the chief sources of pleasure to him, and the strong motives which incline him to attend school.

Domestic influences often increase the evil, and modify the results of scholastic agency. Children are sent to school, depraved by parental neglect, and require corrective management. Their intellectual being is morbid and inert. It needs resuscitation. Degrading habits are superinduced; and an internal change is neces-

sary to break through the outward incrustations, and send the renovating influence through the mental principle. The teacher must correct, by unsealing the fountains of intellectual life, and by awakening the dormant resolution, before the process of confirmation can be instituted, and the mind be led onward by its own light. The teacher who fails in effecting this work, whatever he may do in other respects, fails in justice to the mind, and the office which he sustains. He only succeeds in doing up a given work on the exterior nature; whereas it is the whole being that needs to be awakened to life, activity, and light.

Adequate conceptions of the power of outward influences on the young mind, would lead to happier issues. Let the upward tendencies of juvenile nature be cherished by society. Let the child's condition be adapted to his nature. Let temptations to intellectual indolence and dissipation be withdrawn. Let example and amusement be purified. Let a general interest be felt in children, as progressive beings, whose tendencies, from being unduly neglected or cherished by outward influences, become powers of evil as well as of good, and require not only watchful superintendence, but sustaining aid. Let those who influence the young renovate their own beings. They will then infuse an intellectual element into outward arrangements, and their personal instruction; children will associate pleasure and intelligence with thought. Man will coöperate with Providence in the great work of unfolding the young mind. The mental atmosphere, in which the child resides, will become analogous to that of the material sphere, where every influence operates to nurture, expand, and complete, the various forms of life, which experience its genial power.

2. The analogy between the mind and the outward world is the parent of thought. Objects surrounding the child interest and influence him. They form the elements from which the intellectual fabric is built up within him. They are the data of his experience, and stamp their image on his mind. His associations spring directly from these;

> "Symbolical is all that meets the sense,
> One mighty alphabet for infant minds."

The child inclines to read this primal alphabet of nature. To

this his curiosity is instinctively directed. He should be furnished with the needful incitements and objects. Novelty and variety should operate on his observation. Vicissitude should diversify his experience, and his curiosity be directed into appropriate channels. Objects around him should be arranged in reference to this end, and cabinets and museums provided. Domestic scenery and objects, current events, always full of interest to children, furnish abundant and natural materials for gratifying curiosity, cherishing inquiry, and preserving the mind fresh and vivid.

Children often suffer from the want of such provisions. They become morbid and dull. Accustomed to the daily recurrence of similar occupations and objects, the mind loses its buoyancy of movement, and inertia is substituted for activity. It finds not in external nature its needful stimuli; curiosity is not furnished with appropriate nutriment.

The restoration of the mind, in such cases, to its original interest in nature, is difficult. Fresh objects must be presented to notice; fresh ideas infused into experience; and the mind led onward, by the observation of new analogies, into the relations of pure intellectual truth, and application made interesting, by vivid and natural influences; thus working out, in due time, the renovation of its habits. External education is defective when such processes are rendered necessary.

Besides the restricted local influences arising from domestic circumstances, views of objects and events at a distance, should be sought for children. These will tend to cherish and preserve an interest in nature, excite a love of observation and thought, and, by stimulating curiosity, diffuse ideas into the mind. Aside from the local and immediate pleasure imparted by such excursions, they furnish appropriate materials for the subsequent illustration of lessons in the school-room; for interesting, descriptive and pictorial exercises for conversations; as well as afford occasions for the study of topography, local manners, history, and the cultivation of imagination and taste.

Much appropriate information adapted to children may be imparted in this way. Whatever, indeed, tends to open communion with outward nature, by personal observation, is always interesting

to them; and, by cherishing and expanding this sentiment of interest, they are prepared for the intelligent study of nature, as transfused through the language of the arts.

An early experience, fraught with the sympathetic and inspiring forms of nature, is the origin and spring of genius. What, indeed, are the artist, the poet, the philosopher, but children whose deep interest in nature, and trust in its teachings, have preserved their beings, in mature life, a faithful mirror of outward analogy. Their minds are pure and undefiled. Truth flows through them as from a sweet and lucid fountain. They behold in the vivid light of nature those deep truths, which, by the perverted eye, are but dimly perceived. They imbibe the sacred truths of nature, which, germinating in their intellectual being, bring forth those fruits, whose analogous verdure, richness, and beauty, inspire the beholder with admiration and delight. The young mind kept in this pure sphere during its primal existence, gains that harmony, unity and completeness, which characterize its efforts in after life. Early education, by imparting such influences from analogous arrangement, should conduce directly to such results.

3. Books for the purposes of influence form an appropriate topic of remark in this connexion. These are an important part of the conventional analogy infused into the mental atmosphere of children. They should be true pictures of the original, drawn directly from nature. The books to which a child has access, exert a lasting influence on his character. They become the material of his mind, and an essential means of achieving his education.

The love of reading, early formed by the perusal of books adapted to the mind, promises the happiest results in after life; and a child, having associated pleasure with a book, and found that he can attain ideas from it, may be regarded as having half completed his education. He needs but the fostering care of circumstances to work out his own self-improvement. His mind, placed under the genial guidance of the affections, will bring forth fruits fresh and enduring. Few additions have been made to the stock of human attainment, that were not the fruit of voluntary and interested efforts. Of the truth of this remark biography affords many illustrations. All our influences fail of attaining their appropriate end, if they do not incite this love of truth, and original discovery.

Books designed for children, have not, as yet, received the attention which they deserve. Our juvenile works are still very defective. It would be difficult for a judicious parent or teacher to select, from among the many works intended for the improvement of the young, an adequate library for their perusal. Too many are false to the character and wants of childhood, failing in sound philosophy, often inculcating low and impure morality, tending to subject the mind to ignoble and servile motives, rather than to elevate it to wisdom and excellence. The language is often above the child's apprehension, frequently puerile, the subjects remote from his experience, and the truths embodied with a large admixture of error. In these remarks, it is not intended to detract from the merits of those, whose writings have found favor with intelligent parents and teachers. The works of Gallaudet, Carll, and others of congenial spirit, promise much for the young.

The influence of juvenile literature, is not, as in ancient times, deemed worthy the attention of philosophers and statesmen. Books are the silent teachers of the young. They are elements of outward condition. Every sentiment expressed in them, and received into the imagination of a child, influences his mind. Every picture images forth a virtue, a truth, a vice;—a moral which sinks deep into the heart.

Books should be read before being placed in the hands of a child, and, if practicable, read with him also; and conversations instituted on the contents. Without this precaution, even a good book may leave erroneous impressions on the mind of the juvenile reader. Those only who have observed with care, the habits of the young mind, can truly appreciate the importance of a course like this. A child's mind is full of hidden and unintelligible associations, even when outward circumstances have favored the formation of his ideas. These shed false lights upon whatever is imparted, and it is only by illustrative conversations, and familiar interrogatories, that impressions can be clearly and accurately made. Without these we may impart error instead of truth. There are few books, which can be safely trusted in the hands of a child, without such precaution and suggestive aid.

The same remarks are applicable to the pictures presented to the

sight and study of children. All outward objects are indeed replete with good or evil to the susceptible mind. Their influence depends upon the state of the intellectual being, to form which, is the great purpose of early provisions.

This department of writing and delineation, has not, until of late, attracted the notice of the highest and purest minds. Genius has plied its efforts in other directions. But a rich field is open for useful labor to those who shall devote their talents to the construction of works founded on just views of the young mind, and adapted to its successive stages of development. Successful writing in this department must ensure the permanent influence of the author. His works will diffuse light and life into many a youthful bosom, and children of a coming age, will cherish his name with a hallowed affection.

He whose influences reach the young of a people, and form its manners and mind, accomplishes a great work. He does more for its permanent stability and glory, than he who frames its laws, or conquers its enemies; for he imprints laws on the public conscience, and prepares this for the trials that await it. By such efforts, those who are interested in intellectual worth, may cherish and brighten it. By deference to sound philosophy, they may weave their sentiments into the very texture of the young mind. The vivifying influence of their writings, finding its way into society, and kindling the affections of truth, will cherish and expand the youthful members of the community into the vigor and maturity of habitual excellence.

Having thus briefly surveyed the influence of outward condition on the formation of mental character, we consider, —

II. *The nature and means of internal discipline with a view to the formation of intellectual habits.*

In the examination of this division of our subject, it will be necessary to advert to the natural character and habits of the young mind, as developed by the course of Providence. From an observance of this, we are to deduce the principles and means of human influence. The intellectual nature is governed by general laws, and it is by coöperating with these, that the mind is harmoniously developed, and its faculties disciplined into analogous and

matured habits. Upon the accuracy with which we detect, and the skill with which we adapt our processes to the intellectual laws, depends the successful issue of all our influences. Man is both the servant and coadjutor of nature in the great work of unfolding the human being.

A very imperfect view of the mental faculties and habits, as the objects of intellectual discipline, can only be attempted within the limits to which we are restricted.

Childhood is obviously the season of sensation. Perception and expression predominate. Incited by the perpetual freshness of outward nature, the child is employed in tracing surrounding analogies, and in ascertaining his relations to outward things. Sympathy, curiosity, and inquiry, agitate his mind, and impart fitful and desultory movements. It inclines to take general and outward views of nature, with but occasional reference to order and connection, as developed by scientific and rigorous investigation. Its glance is outward; its associations erratic. It does not enter within itself by continuous reflection, and trace the deeper connections of experience. Observation, association, and thought, in their general forms, are awake; intuition and induction characterise its habits. Phenomena, detached facts, and simple relations, limit its view from those deeper relations and causes, which belong to a later stage of development.

These intimations of nature establish the course of early discipline. They indicate that the child should be, chiefly, employed in observing and comparing objects and relations in his own simple way, aided by such analogous influence and instruction, as shall be necessary to give accuracy and verity to his forming experience; and that, as his faculties are progressively developed under this genial guidance, he is acquiring the elements of the intellectual superstructure, in the arrangement and completion of which, his reflective powers are to be employed, disciplined and perfected, in maturer life.

Early discipline is thus designed to lay the foundation on which the mental character may rest without encumbering the powers of thought by exercises which yield no fruit. By cherishing original interest in domestic circumstances and relations, it cultivates the

habits of observation, association, and thought; thus preparing the child to appreciate nature as delineated in written expression, and progressively advancing him to the appreciation and study of books.

The course of Providence should be pursued by man. The usual routine of early education is, however, far from being in accordance with such intimations. The analogies of nature and of Providence are denied their vivifying influence on the mind. Instead of cherishing observation by reliance on experience, the child is primarily referred to the mere symbols of nature, as presented in books, often distorted and arbitrary, and devoid of the freshness and beauty of the original. The juvenile powers are turned from their native direction into false channels. Attention is fastened on the arbitrary copies of truth; it is not favored with the vivid perception of truth itself. The deep and inspiring fountain is sealed to it. Left to the varying impressions of society, or shut up in the school-room, the child is placed under influences having little analogy to the genial dispensations of Providence. He is expected to learn the great lesson of self-discipline, and to con over his papointed tasks, which are as much above his apprehension, as they are remote from his experience, and beyond the strength of his intellect. The instruction which he receives is unsuited to his immediate wants, and he cannot appreciate its prospective value. It is often presented in forms which incline him to dislike acquisition, and associate uselessness with knowledge. Life and its concerns, his nature, duties, and destiny, are left unintelligible matters to him. Under such restrictions, study is arduous, and intellectual ambition does not dawn on his mind. Efforts are required, and yet yield him no obvious and useful fruits.

Meanwhile, however, the original tendencies of his nature are urging him onward toward truth, inciting observation and inquiry regarding the object within his experience. He is dwelling with delight on outward nature. He is endeavoring to trace the mysterious truths there recorded. His mind turns with instinctive fondness to the study of objects, and things, and events around him; he prefers the original to the copy; but in this he is not aided by instruction, and his truest wants are not supplied. He asks for bread, and is offered a stone.

A sounder philosophy would disclose views more just to the young mind, and develope results worthier the vocation of teaching. It would search out the evils and prejudices which retard the progress of education, and, as the guardian of the young mind, regard books as but the formal depositories of truth for the young.

What do books contain but the views of another, drawn from a source more or less common to all? They are secondary, not primal materials. The volume of nature is ever open and intelligible to the cherished and accordant observation. But books are the conventional analogy of man's creation. The ideas embodied in them are unintelligible to those who have not previously studied the pages of nature and experience; both of which, are accessible to the child. He may read them by observation, and verify them by thought. And it is by such processes only, that he is prepared to study and to understand the books presented to him. If his observation is disciplined, and his mind interested in analogy; if he have true faith in the teaching of nature and experience; if his whole mind is placed under the willing guidance of these agencies, he is already in the path which conducts to truth; he has found the key which unlocks its gates. He is able to appreciate truth which exists for him everywhere: it is not confined to the book, nor dispensed solely from the teachings of the school-room. Nature is to him a vast school-room; and he delights to take his primal lessons from the pointing finger of Providence.

The intellectual powers to be disciplined in accordance with the course of Providence by systematic means, may be regarded under the general designations of *observation*, *association*, and *thought*. These will be discussed in successive order.

1. By observation the child holds communion with the outward world. It is the inlet of ideas. As the means of cherishing and disciplining it into efficient and habitual action, conversations on the objects, events, and materials of life, should have the preference. The taste of different individuals will, however, lead them to draw materials from different sources for this purpose; and the wider the field of selection becomes, the more friendly will be the influence on the mind. Nature, and life, and Providence, are ever interesting to

children, and rich in provisions for evolving and maturing their mental powers.

To do full justice to the young mind, our school-rooms should become museums, imaging forth the variety and beauty of the material and mental world. By such arrangement, juvenile interest would be secured, curiosity and inquiry incited, and intellectual attainment and vigor result. The child would feel himself in the presence of objects analogous to the outward sphere, and imbibe the inspiring influence.

In my own practice, domestic objects and current events have furnished the readiest and most interesting materials for conversation and study, as a means of cherishing and disciplining observation. The children have been requested to observe the circumstances of their experience, to describe these, and thus furnish fresh and instructive matter for conversation with each other and the teacher. They have often embodied the substance, thus elicited, in their own language, and transferred it into books kept by each for this purpose. By this means they are led to form the important habit of self, as well as of relative, observation ; and to keep a journal of their intellectual progress, collecting and preserving the materials which enter into the formation of their mental being. Life is wrought up into interesting and improving forms of discipline. To cultivate the habit of self-introspection, as a maturer mode of observation, ethical reading has also been employed.

The cultivation of observation, by inducing attention and inquiry, cherishes the development of abstraction, the master-principle of the mind, originating thought, gathering the fruits of observation, and placing them before the eye of the understanding for the operation of reason and judgment. Its habitual activity determines intellectual character. The child who has attained the power of continuous and connected thought is already an intellectual being. He is possessed of the means of receiving the mental patrimony assigned him by nature, and is in the path which conducts to truth and wisdom.

Our popular forms of influence fail in cherishing abstraction into the vigor of habit. Provisions for intellectual activity are inadequate. Instruction is too remote from experience to incite observa-

tion and thought. Books yield the mind few materials for reflection, and it seeks ideas from other sources. The intellectual dulness exhibited in the school-room, as contrasted with the vivacity and activity presented in the observance of outward nature, in juvenile pastimes, and in the mental habits of the young when freed from restriction, sufficiently indicates the source of failure. Successful education presents analogous interest and activity under all these conditions. The tendency toward knowledge and truth exists in the young mind, and if it does not manifest its activity, and become vigorous and effective, it is owing to our neglect, or misguidance. Surround the mind by the genial atmosphere of truth and it will flourish and bear fruit.

Conversation and reading are natural means of cultivating abstraction. Attention is awakened, and the mind placed in a condition to receive and operate on ideas thus offered. Daily listening to reading will soon establish this habit. The subject of reading must, however, be adapted to the child's mind, and the language, in which the ideas are presented, be within his apprehension. Intelligible reading will soon sow the seeds of thought, and if wrought up with illustrative conversations and interrogatories, conduce to mental vigor and power. It will also aid in fixing the meaning of words, increase the mental vocabulary, and, with conversations, give colloquial ability, by imparting accuracy and fluency to expression. Personal reading also contributes to the same end.

My own practice has led to some interesting results. A considerable library, consisting of works adapted to the young mind, or containing ideas worthy of being wrought into more interesting forms, has been furnished for general and personal perusal. Daily exercises have been conducted from the perusal of this, and the children allowed to interest themselves in reading at their leisure. Their interest in this has been kept fresh and vivid. Sustained attention to reading is now common for hours, in individuals, whose notice, on admittance to the school, was too volatile to be fixed even for very short periods of time. Irving's Columbus, and Pilgrim's Progress, are among the many works in which a deep and intelligent interest has been experienced.

The mental habits are closely related; from attention results in-

quiry, as a purer form of abstraction. A true guardianship of the mind cherishes spontaneous application and free thought. It aims at forming habits of self-investigation, self-activity, and self-dependence. He who has begun to inquire has begun to be intellectual. He has recognised the inherent energy of his nature, and should not be allowed to receive instruction by passive reception ; but permitted to acquaint himself with his capacities by experiencing their agency in the discovery of truth. Let inquiry be cherished and all interrogatories carefully answered, and the education of a child is half achieved.

The child's inquiries indicate his intellectual condition and wants. They should be treated with sacred regard, and answered with faithful accuracy. The simple and confiding mind of childhood, intent on truth, should receive it unbroken and pure. Faith in outward authority should not be impaired, nor the unity of juvenile nature deranged, by the reception of error from lips, whence truth and wisdom only are expected to issue.

Our failures in education, doubtless arise, in part, from disregarding the inquiries of children, or making them the occasion for instilling error into their docile minds. The original tendency toward truth, as manifested in inquiry, is thus perverted, by inducing a doubtful and broken experience, in which truth and error are indiscriminately blended, and the foundations of authority and faith wantonly destroyed.

To form habits of inquiry, and self-investigation, the questions of children should be cherished and respected. If the truth of which a child is in quest, is above his unaided ability of apprehension, analogous data may be drawn from his experience to assist him in attaining it. Inductive questions may be instituted by which he may be led to the desired result in the light of his own mind. Assertions should not be made. The child should be required to take the subject into his own mind, and work out the problem himself, receiving but suggestive aid from others. The conscious pleasure of self-activity and self-acquisition is thus induced. Confidence is attained in his own powers: he finds truth within the scope of their agency. The sense of mental power is felt, and the ability of forming independent conclusions is developed. The mind becomes

sharpened and matured for intellectual labor; original thought is cherished; faith in truth is awakened, and the basis of certainty and probability established.

2. Associations formed in early life, determine the future movements of the mind. They weave the texture of thought and regulate intellectual action. Memory, imagination, and conception, derive their characters from this source, as definite modes of its action. Ideality springs from association; and the creative faculties are all dependent on this for their expressions.

To regulate the associations is a most important office of early influence. If these are false to nature, an erroneous law is introduced into the mental being, which is continually leading the child's mind astray into dubious and erratic paths. As a preventive of this, early education is intended to convey truth into the mind pure and unbroken; transfusing the order, sequence, and connexions of outward nature, as a central principle, around which the associations may gather, and on which the intellectual fabric may rest.

The readiness of children to form lasting associations from vague and imperfect analogies, renders it necessary that much pains should be taken in modes of presenting subjects, and in ascertaining the effects of instruction. Children should always be questioned regarding the impressions left on their minds. We can never be sure of the good or evil imparted, until the child has returned to us the ideas as reflected through his mind.

In shaping association into the forms of memory, imagination, and conception, great reliance should be placed on a natural and inductive order of presenting subjects to the attention. The unity, accuracy, and freshness of truth should be preserved by reference to nature, and by analogous and vivid illustrations. Formal study and recitation, in which the associations are derived, chiefly, from external and arbitrary views, are unfriendly to the formation of accuracy and vivacity of memory. Rote and restriction should be avoided. Ideas, in their own pure forms, stripped of formal associations, should be presented, and the child, thus receiving them into his mind, should be allowed to express them in his own way. They are thus returned bearing the impress of his mind, and acquainting the teacher with the influences of his instructions.

The passive reception and repetition of another's thoughts can impart little vigor to memory. The imagination must grasp them firmly, and conception give them form and shape of its own, ere memory will retain them with necessary tenacity. A truly retentive memory implies the action of several faculties; it rises above the recollection of mere verbal collocation into the sphere of ideality. It appreciates and defines ideas. Its associations are those of necessary sequence and connected order.

Popular methods of improving memory often fail in their influence, devoid as they are of life and vivacity in imparting ideas. They do not cherish originality of thought or expression. Opposed to nature's method of instilling ideas into the mind, the results exhibited are intellectual indolence and flatness, even when they have applied their choicest agencies. Children manifest but little original activity and ideal power; the mind often slumbering unconscious of its creative and elevating energies. The associations offered are material and arbitrary: imagination and conception are not addressed.

There is a sentiment prevailing among us, founded on imperfect views of mind, the influence of which in instruction does violence to one part of the child's nature, cherishing another unduly, by rendering more luxuriant the imagination in some, by checking its tendencies; and operating to the injury of others, by failing to call forth a power so important to discovery and happiness.

The vivid activity of imagination in early life, intimates the importance of cherishing and directing it, by providing suitable elements on which it may operate, and assisting in forming these into those ideal images which shall elevate and purify the intellectual nature. The child does not realize in circumstances the ideal existing in his own nature. His mind seeks for wider and purer views. These it finds in fiction. In this, if pure, his views of life and action are made palpable and external, and he sympathizes in the illusion. In the analogies thus presented to view, he recognises distinct and definite forms of his intellectual conceptions. The pure ideality of truth is revealed to him. He sees vividly what is but dimly shadowed forth in material forms. His conceptions are widened and spiritualized. He rises above circumstances into a region of intel-

lectual light and life. He gains a consciousness of his capacities, forms new and fresh associations, and sees himself shadowed forth in outward things. The inward nature is purified and elevated, the fountains of reflection opened, and an element of creative energy infused into his intellectual being.

This early fondness for ideal truth, together with its purifying influence on the mind, intimates the value of fiction in the cultivation of imagination and conception, as the means of furnishing the materials of vivid and productive thought. Ideal associations are the outward forms of truth; they embody a meaning, and offer the analogies by which it is to be divined. They incite curiosity and inspire the mind with sentiment. They cherish the formation of taste and shed their influence over surrounding circumstances. It is in this region that the artist, the poet, and the philosopher dwell; and if we would elevate the young to these pure and bright spheres, we must cherish those powers which enable the mind to ascend. The monotony of life, in its existing forms, does little for the creative faculties. We must infuse a renovating element into it, to awaken curiosity, excite ideality, and inspire and elevate the soul.

The tale, the emblem, the allegory, are forms of that ideal which we recognise and admire in history, biography, and common life. These embody the unity of truth, and are purer examples for imitation, than can be found in actual experience. They lead the child beyond "what man has done," and fix his mind on those conceptions which vividly delineate to him what more "he may do." Equally with history and biography they become appropriate channels of truth to him. Well selected and judiciously used they are among the richest materials of early instruction; becoming "the vehicles of the sublimest verities, opening new regions of thought, and throwing new light on the mysteries of being."

Fiction has been liberally employed in my own practice, and the happiest intellectual results have followed. The works of Miss Edgeworth, Salzman, Bunyan, and De Foe, are particularly interesting to the children, and have contributed not a little to their mental and moral advancement. One little girl of eight years, has become so much interested in the writings of Miss Edgeworth as to peruse most of the thirteen volumes, and to converse upon them with intelligence.

3. The discipline of observation, by regulating the associations, developes thought, and commences the inward process of reflection. It collects the materials for the operation of understanding, reason, and judgment, and puts the whole mind in motion. It imparts the power of forming clear and accurate conclusions, from analogous data; and enables the child to reason on circumstances and facts, with intelligence and skill.

Subjects for the discipline of these powers are offered in the daily objects, pursuits, and studies of the young. Without formal lessons, or direct reference to the rules of logic, a child's reflective and rational powers may be elicited and improved. Let him be required to use his mind on all subjects; and, by cherishing this habit, through conversation and an inductive order of associations, activity and vigor of thought will be attained. Do not require him to yield unreasoning, unhesitating assent to any thing presented. Put his mind in requisition and allow him to discover truth.

In my own practice, all views and opinions have been deemed as materials to be used for eliciting truth. The common treasury of individual experience has been opened for this purpose, and the fruits of the individual mind poured into it, from the comparison and generalization of which, the powers of thought have been disciplined and truth elicited. Books have been called in to assist in this purpose. Still, the main dependence has been placed in the exercise of the mind operating by its own light. Clear and consecutive statements in inductive order, have been attempted. Ideas have been associated in necessary sequence, and connected order. Conversations and readings have furnished the materials for such exercises.

The discipline of the intellectual faculties by these general exercises tends to form habits of analysis, combination, classification, generalization, and inductions; — operations which enable the mind to experience, and apply all its powers, and fit it for the investigation, discovery, and verification of analogy. They empower it with the skill of using the materials within and around it; of opening an intelligible communication between the child and the universe; and enable him to convert circumstances and experiences into the means of self advancement.

The usual course of early instruction fails in attaining these purposes. The mental habits are not disciplined in accordance with nature. The young mind is not allowed liberty and scope, essential conditions of vigor and progress. Its view is limited, by restricting its efforts, while the associations should be allowed to operate on all subjects interesting to the imagination, and the ideas be drawn from a wide survey of nature. The circumstances of life are not wrought up into mental forms; nor the associations made natural and consecutive, by the consentaneous use of all the intellectual powers. The whole mind must be cherished and disciplined as it is by Providence, or it will not grow. Nature and man must unite their agencies in producing the divine power of thought.

It is by this general supervision of the whole nature that its unity is preserved. Life is the great element in which the mind is to be expanded. The vicissitudes of experience, by furnishing materials and occasions for observation and thought, are intended to form and mature the mental character. These are the book of primal study. Having, by observation and study of this, acquired ideas and the power of arrangement, combination, and induction, the child is prepared for specific investigation. He is armed with powers which fit him for voluntary, and unassisted thought. He is able to imbibe, assimilate, appreciate and verify the analogies presented him, and is prepared for the consecutive study of books. The volumes of nature, of providence, and of experience, being made intelligible to him, he is worthy of being advanced to the tomes of recorded and systematic truth.

From this view of mental discipline, we may, therefore, proceed to consider, —

III. *The influence of instruction, by the instillation of knowledge, as connected with the study of specific branches of science and art.*

Education is a process instituted in human experience by the ceaselessly operating influences of nature and Providence. By recognising these influences, and coöperating with them, man becomes himself an agent in this sublime work. Operating on himself, or on others, by instituting specific processes, and applying analogous

materials, he developes the art of instruction, and discloses the value of knowledge, as a means of disciplining and maturing the mind.

When true to its design, instruction hallows the attainments of the intellect, by infusing into them the light and life of conscience, and thus producing the fruits of wisdom and excellence. It imparts self-intelligence as the basis of all other knowledge. It instils pure and unbroken truth into juvenile experience, as the means of giving unity, stability, and efficiency to mental character. Without attaining this end, its influences fail in their true issues. Intellectual attainment, however deep and varied, is a doubtful power, unless impregnated with the life of conscience; since, wanting the stability of inward principle, it forms an inadequate and insecure foundation for wisdom and excellence. Truth must be baptized in the fount of wisdom to renovate the mind.

Of the *sciences* and *arts* deemed appropriate for the specific study of children under the guiding influences of instruction, we will now speak in the order of their importance, and of their suitableness to the progressive development of the young mind.

1. Of branches of knowledge designed for specific study, the science of self has a primary claim upon the attention. To this the child should be early directed, and the teachings of experience, on which it is founded, be deeply impressed on his mind. His own nature and relations should be investigated. All lessons, indeed, should be made to shed light on self, tracing and defining the laws of being and condition, and thus preparing the mind for the discharge of its varied relations. Science and art are comparatively useless to the possessor, and a doubtful blessing to society, unless based on the wide foundation of self-knowledge, and hallowed by the discharge of self-responsibility. The conscious appreciation of relations to self, to man, to the universe and its author, arises from self-appreciation. Without this, the volumes of nature, of Providence, and of Revelation, are unintelligible. The child must enter the depths of his own being for the light which is to enable him to interpret the analogies of truth and wisdom, and develope the docility and faith of true piety.

The inadequate provisions made, at present, for the study of self, must cause every one truly interested in the improvement of child-

hood, to feel the deepest regret. This primary science, on which alone the whole superstructure of human attainment can permanently rest, should be early and clearly presented to the child. It should be the first taught, as it is the first toward which his mind is directed by Providence. The child who is acquainted with his own nature and relations, finds within the most powerful motives to cherish and complete his powers. He possesses a strong preservative against evil. He has entered into possession of himself and has commenced the career of self-perfectibility.

An observant eye, however, cannot fail to perceive the inadequacy of existing influences to the production of such results. Do not children come forth from our influences extremely imperfect? Light may have dawned upon their intellect. Learning may have been attained. But how dark and benighted is the internal being. How little of self-knowledge is imparted. Juvenile life, instead of offering examples of high and pure principle, becomes, indeed, the arena where imperfection and weakness are sadly exhibited. There is certainly a failure in the guidance of the juvenile being. And failures will continue to result, until children are taught what is most important for them to know, and adapted to their nature. They must be made acquainted with themselves. They must be made to understand the lessons of their experience, and to place reliance on its perpetual teachings, as the means of attaining truth and wisdom. They should be inspired with sentiments of respect in view of their own nature. They should learn to cherish and purify it. Its tendencies, capacities, duties, and destiny, should be simply disclosed to them.

But clouds and darkness, at present, are allowed to hang around the juvenile being. Life, with all its provisions for progress, is not revealed to the young. They are not made conscious of the work which they exist to complete, nor inspired with a sense of the glorious future which awaits them. The slumbering soul is not awakened to life, activity, and light.

This failure is unwarrantable, when materials and means are so abundant for imparting a knowledge of self and relations. Life is full of instruction to those who observe and study it; and to this the young mind turns with instinctive fondness, as the element in

which it is to be cherished and matured. Biography and history are full of interesting truths in aid of this purpose. Fiction is rich in all its array of material and spiritual analogies. Ethical and intellectual philosophy offer their stores to the mind; and divine revelation and example shed upon it their hallowed light. From all these sources, experience may be vivified and renovated.

Of all exercises, those relating to self, have been, in my own practice, most interesting and instructive to children. The conscious self-intelligence thus imparted, has, in several instances, diffused itself over the whole being, and wrought out, by coöperation with the will, a happy renovation of desires and motives; elevated the mind to nobler views, and established pure principles of intellectual and moral action.

Conducive to the same purposes, and next in importance to the study of self, are natural and moral history. The nature and habits of animals, manners and customs of mankind, offer rich and attractive materials for juvenile study. Besides imparting much useful knowledge, as a means of discipline, these studies offer occasions for inculcating liberal and enlarged views of the intimate connections existing between all orders of animated beings, as the basis of sentiments of humanity, charity, and mutual good will. The child is led to perceive his relative, and superior place in the scale of being, to appreciate the corresponding duties implied by the comparison, and to cherish sentiments of gratitude and reverence for the common Creator.

If anatomy, physiology, botany, and the physical sciences generally, were presented to children, in a simple and intelligible shape, the happiest results would be wrought out on their intellectual character. These will, it is believed, be offered to their attention, ere long, as necessary elements for the successful study of humanity. By applying the inductive method of investigation, to which the young mind inclines, it might be led upward through sensitive, palpable, conscious nature, to the unseen, and spiritual Creator; deriving through the medium of experience, an intuitive knowledge of his attributes, and a confiding faith in his providence, and government. Natural theology, as presented in the volumes of Mr Gallaudet, fulfils almost all the conditions of instruction, confirming

the truths of Divine Revelation in the mind of a child. Nature, and Providence, and experience, are full of analogies, by which the young mind may be led upward to the source of Creating Energy and Preserving Love.

The observation and study of objects and events within the circle of a child's experience, form a natural preparation for the study of those remote and unseen. A child's knowledge originates in his domestic experience, and by this he measures his ideas. He cannot generalize his sensations so as to take in the unseen and impalpable, from the want of ample data. The local scenery of his native town affords but an imperfect picture of the distant. His narrow experience is too limited to appreciate the wider views derived from reflection and travel. His ideas of space, of time, of distance, and number, are too vague and evanescent, to afford adequate measurement of general views.

Geography and astronomy seem, therefore, to be inappropriate studies for children, unless commenced on the basis of topography and number. History should also commence with biography and be founded upon it. Maps and charts, compends and chronological tables, from the want of definite experience on the part of the child, become comparatively useless as means of instruction. Their diminished and conventional forms do not atone for the want of intellectual survey on the child's part. The associations implied by their use do not exist in his mind, and are above his reach.

The early age at which children have been required to study geography and astronomy, seems to imply a positive ignorance of the young mind, and of its modes of attaining ideas. Let any one ask an intelligent child, the relative position of places and objects even within the scope of his daily observation, and the answers of the child, although he may have nominally studied geography in the common mode, manifest the absurdity of attempting to impart accurate ideas of distant and impalpable matters, when no measure exists by which to render them obvious and accurate. The mind must proceed from the known to the unknown; from the near to the remote; from self to relations; or all our influences are without effect. The waves of analogy are evolved from self, and beyond their circle, all is dim and inappreciable to the mind.

Attempts have, however, been made, and approved of by many, to introduce the studies of geography and astronomy into the infant and primary school. The spectacle is by no means uncommon of globes and orreries placed in conspicuous array in our school rooms. The children may be seen learnedly discussing with their teacher, the circumference of the earth, the relative location of continents, oceans, and countries, the magnitude of the planets, the times of their revolutions, and their distances from the earth; when they have no definite conception of the distance of their own homes from the school-room, of the relative position of places around them, cannot define the size of the room in which they are assembled, measure an hour, or intelligibly enumerate their fingers.

With the materials for enabling the child to prosecute the study of geography and history, in the natural method, we are not yet amply provided. Town-maps, local biography, and history, are but recent aids, and still inadequate. Geographies, with a few exceptions, are constructed on principles opposed to this course. In the absence of necessary materials, we should be more just to the mind, to defer the presentation of these subjects, until the child's experience shall have been generalized by wider observation and reflection.

It is unnecessary to refer to methods of teaching arithmetic and geometry; or to insist on their adaptation to the young mind, when the children in our schools are so successfully prosecuting these studies from the light shed over them, by the labors of Colburn and Grund. A simpler work on both these subjects from the same sources, would supply a want still existing in the department of early education.

2. The arts which accompany or result from the sciences should be taught simultaneously with them. The child having been assisted in gathering ideas, should also be aided in expressing them. The united fruits of sensation, reflection, and expression, should now be embodied and manifested in the arts of design, and the forms of language. The analogies of literature should be presented to his view.

The tendency of children to delineate their ideas, both in symbolic and written forms, intimates the course to be pursued in early

instruction. Delineation may precede formal vocal expression, and should accompany study in some intelligible form. To mark with chalk, pencil, or pen, is an exercise in which children universally delight. They are interested in outward nature, and enjoy the idea of endeavoring to depict it in symbolic forms. Their first efforts, though imperfect copies, are worthy of attention and respect. They elicit intellectual activity, and conduce, by daily repetition, to the formation of valuable habits in aid of future acquisition. They are the first essays in the child's literary career.

These first efforts in delineation are inadequate expressions of the ideas which they are intended to embody. The symbolic and conventional manifestations do not do them justice: the manual effort but faintly images forth the intellectual conception. But the habit of observing nature, and forming ideal images, and expressing these in sensible forms, besides being a discipline of perceptive and manual ability, imparts to the child, in due time, the consciousness of intellectual power, which becomes one of the purest impulses to future progress. It is a discipline for the successful prosecution of the expressive arts.

To cherish this tendency in children, and reap the fruits which it may yield, slates and blank books may be provided. These will furnish a convenient location for their thoughts and fancies. The black-board may subserve the same purposes.

As the child makes progress in the acquisition of ideas, and commences learning the alphabet, he may delineate his conceptions in written forms on these. This exercise will interest and employ him, and serve to remove the usual reluctance felt by children in learning their letters.

In my own practice, besides the provision of slates, ample blank books have been furnished to each child. In these, forms of objects, copies of pictures, and imaginary conceptions, have been delineated. Tales, fables, biographical sketches, poetry, original descriptions, and paraphrastic exercises, have also been inserted in them. Daily lessons, in systematic forms, have been recorded and preserved.

To a philosophic mind, interested in all forms of intellectual expression, these volumes afford matter for valuable speculation.

They shed light on the early operations of mind, and are interesting specimens of juvenile taste and industry. They also furnish materials for illustrating the mental and moral history of the individuals whose efforts they embody. Might not education be advanced by the general preservation of similar materials? We need a more accurate knowledge of the nature and habits of the young mind, and all materials which shed light upon it are truly valuable.

To avoid the necessary difficulties arising from the early use of ink and pens, pencils have been used. It has been found by satisfactory trials, that the skill thus attained by the use of the pencil, when applied in the guidance of the pen, favors the attainment of a simple and graceful style of penmanship, imparting a facility of execution, not usually attained, in much longer practice, by the usual methods of teaching this art. Children who begin to mark, in this way, at the age of four or five, attain a neat, original, free style of chirography at the age of six or seven, besides the mental discipline which the daily practice so directly favors, and the aid furnished in the study of other subjects.

An anxiety is often felt by parents that their children should early attain the power of reading, and this anxiety, expressed to teachers, often induces them to advance the little learner faster than nature intended, to the consequent injury of the mental organization. The mind is unduly developed, and its unity impaired. It is subjected to formal and unnatural processes; and by stimulating motives, the desired power is evolved.

This is unwarrantable and unnecessary. The child, whose mind is generally cherished and addressed, cannot but attain an adequate knowledge of reading in due time. Or should he fail of being able to read at five or six, he has not been mentally idle. He has been acquiring ideas, and laying the foundation for the study of language, in accurate and connected experience. He has been preparing for the appreciation of language, by the appreciation of nature, on which this depends; and when his mind is turned to the study of expressions, his progress will be voluntary and rapid. When once the pleasure of perception, arising from the study of the book, is felt, he will advance; and without this, the art of reading can conduce to little intellectual benefit, as no adequate

motive to application exists. Cherish his mind, make all instruction intelligible, and study productive of ideas; give him time, and the child will not disappoint our expectations, though he should not read till the age of six or seven years. The genial discipline of nature will awaken thought within; give him the desire to express it by written forms, and to decipher the expressions of others. He will go to the book and derive pleasure and instruction from it. Let us not unduly anticipate and thwart nature in her course, by disgusting the child with unintelligible instruction.

The common methods of teaching reading seem opposed to this course, and the results are such as we might expect from the violation of nature's laws. The child is first presented with a set of arbitrary characters, having no real or formal analogy to the objects of his experience. To him they are without meaning. He is at once introduced into this unintelligible company. All is new to him. He passes weeks, perhaps months, in conning over these, during which time no ray of intellectual light, except by accident, is let in upon his mind. There are no fresh and happy associations for the heart; no intelligible connections with language, nor the purposes of future attainment. The ear, the eye, the memory, are only addressed by the tiresome monotony of reiteration. By the side of his teacher he is compelled to take his stand, and if the little novice fail, amid all these accumulated obstructions, to attain, in the appointed time, the difficult art of reading, he is pronounced to be destitute of intellectual ability.

What an introduction is this to the fields of learning and truth. How different from that by which nature first impresses the mind, presenting characters nicely adapted to the child's intellectual eye, full of meaning, and interesting from their perpetual freshness and fertility of association. Nature's analogies are ever new, ever intelligible; early instruction should offer faithful copies, and impart similar influences.

A natural course of teaching the art of reading would commence with the exercise of enunciation, — the child uttering from the teacher's lips the elementary sounds of the language, proceeding from these, by gradual succession, to the more complex and difficult. These may also be expressed in ocular forms on the slate,

or in the child's blank-book. Writing and reading should be connected. Daily lessons in these forms, continued for a few weeks, usually impart a knowledge of the sounds of the language, and the power of expressing these in appropriate signs. In aid of this purpose, "Russell's Lessons in Enunciation" will be found useful to the practical teacher.

Reading naturally follows enunciation. The child may be presented with a view of some natural and familiar object as delineated in a cut, or with the object itself. Near this let the name of the object be printed in letters adapted to his eye. The picture, in the first place, may form the subject of conversation between the teacher and child. The latter will by this means become interested in the object which it represents. He may then be requested to analyze the picture, naming its more obvious qualities. His attention may next be referred to the printed word expressive of its name. This he will associate with the object; and its general form, as symbolical of the qualities thus recounted, will be fixed in his recollection. Other cuts and conversations may follow in similar succession. These may next be removed, and the child required to name the symbolic words without the aid of the cut.

When a sufficient number of these have been thus identified, they may be embodied in simple sentences, as appropriate reading lessons. The previous analytic exercises will prepare the child for reading these with intelligence.

These sentences may next be analyzed by observing and naming the letters, as component parts. When the child is able to accomplish this, he has mastered the difficulties of reading; and, by repetition, he attains ere long, the skill of perusing little stories, at sight; and is led, by lessons of progressive difficulty, to the conscious attainment of gaining ideas from books by unaided efforts. He associates pleasure with the exercise; the book becomes to him the repository of information. He is initiated into the difficult art of reading, without painful labor or reluctant effort. The will and the heart are both active, and the understanding imbibes the influence.

Spelling and reading may now be united. From some simple and intelligible author, lessons may be selected for this purpose. Sto-

ries are preferable to any other form of composition. Words may be selected from these, and written on the slate or blank book; after which they may be read and spelled, with illustrative conversation from the teacher.

The common practice, so repugnant to juvenile associations, of giving lessons in spelling, of words detached from their natural connections in sentences, and arranged in reference to analogous sounds, is avoided. Children seldom attain a practical knowledge of spelling, until they are put to writing words in their natural collocation. Writing sentences from dictation is an exercise adapted to this purpose.

Exercises in definition, should accompany all forms of specific study. Clear and accurate ideas are the fruit of defined thought. The natural mode of imparting this is by conversation. The reading lessons may be analyzed in this way, and the children requested to express and recapitulate the thoughts thus embodied. As an aid to this purpose, and a preparation for intelligible reading, paraphrastic exercises may also be employed. The ideas embodied in a given lesson, may be taken into the mind of the child, and expressed in his own language, by the use of synonymous terms, or a different collocation. These exercises form interesting materials for transferring into the blank-books. They have been found interesting to children. Besides being exercises in spelling and writing, they assist the mind in original expression, and form an appropriate introduction to written composition. They soon become original efforts in expression; and discipline the mind in practical logic, as preparatory to the study of grammar and rhetoric.

3. A few words on books designed for the use of children in specific study, will complete our present view of instruction.

In works designed to be used as class-books, the subjects and language should be adapted to the minds of children. A child should not be permitted to read what he cannot understand and explain to his teacher. With a book he should always associate the idea of intelligence and mental pleasure. His mind should move onward by the light of the understanding, and the lessons have reference to the circumstances of his experience. Many of the books prepared for the use of children fail in this respect.

They embody thoughts above the reach of their minds, and the language employed is not the language of juvenile life. The works of Colburn and Worcester are favorable specimens of adaptation to the young mind. Others might be enumerated.

A prevailing defect in standard juvenile works, exists in the want of adaptation to the eye. They should be printed in large, well-formed type; the words placed at wider distances, and the lines more remote from each other. The eye would thus be aided by the ocular presentation. In works designed for teaching reading and spelling this arrangement is highly important. It is adopted in the Primers of Worcester, Gallaudet, and Parkhurst.

Good paper and accurate cuts, are also important characteristics. Pictures should be executed with special reference to the associations which they are intended to produce in the mind of the child. They should be accurate copies of nature, and the means of imparting vivid and pure ideas to the mind. A specimen worthy of imitation in this respect, exists in some of the books published by Carter and Hendee; particularly a volume entitled, "Stories of Common Life."

The value of pictures in early education seems not to be appreciated. Our juvenile works are in this respect greatly defective. They impart error by the cuts, as well as by the matter embodied in them. The pictures are seen, and leave their impression on the mind; the ideas embodied in the printed words may be less injurious, as they may never come vividly before the mind of the juvenile reader.

The publisher of children's books exerts no limited influence on the formation of the general mind. By the works which he issues from the press, and the style of binding and ornamental design in which he presents these to the young, he leaves the impress of his influence on the juvenile mind. The artists and authors which he patronises, become coadjutors with him in the formation of juvenile taste, association and sentiment.

A generous enterprise for providing the young with appropriate books and pictures, would, no doubt, meet with successful patronage. The talents of artists and authors would be usefully employed in this way; and the young enjoy and repay the interest thus

taken in their welfare and happiness. The cause of education, would be subserved in an important department. Mothers and teachers would find their duties enlightened by the means, thus furnished, for the improvement of those committed to their care.

The preceding remarks, if founded on just views of the nature and means of education, establish the inadequacy of existing methods to cherish the tendencies and wants of the young mind. They intimate the importance of verified principles for the guidance of instruction. They develope the importance of studying man as the true means of attaining these principles. They aim at leading the mind above the consideration of methods, and fixing it on the discovery and verification of principles; the establishment of which, is to shape our methods, and impart to them their efficacy and life.

The spirit of the day, by an undue preference for methods, operates against the progress of early education, by the establishment of principles. Intent on the improvement of methodical plans, we are in danger of treading principles under our feet; of stumbling over the young mind. Desirous, chiefly, of effecting immediate results, we fail of establishing a sure foundation for theoretic and systematic practice.

Our efforts thus become encumbered, in their operations, by many obstructions. Emerging from the study of matter, we incline to transfer the views and habits impressed upon us, by our intimacy with it, into our modes of investigating mind; and, accustomed to measure results by immediate and palpable utility, we endeavor to test intellectual investigations and experiments by the same standard, regarding the theoretic and ultimate, as evanescent and valueless, as they are wide of this measurement. We test education by improved methods, rather than by definite and universal principles; and thus cherish and keep active, a sentiment opposed to the spirit of intellectual advancement, retarding the progress of instruction, by throwing aside as useless, the valuable materials combined by those, whose speculations, if they have led to no immediate results, necessarily, shed some light over the subject.

Guided, meanwhile, by a limited and unobservant experience, we institute arbitrary processes on the human being; and our practice, based on no settled principles, deduced from the laws of mind,

becomes often empirical. It disregards the unity of individual constitution, which requires a treatment adapted to specific wants, and subjects all temperaments to the same general discipline. Without investigating mind to discover the principles of influence, and establish instruction on immutable foundations, we incline to follow tamely in the track of the past; as if all resources were exhausted, and no new light was to be shed on education, from the study of man's nature.

The advancement of education depends upon the prevalence of more elevated ideas of its nature and purpose; upon a purer medium of intellectual measurement. We need a more generous theory of man; a more philosophical mode of investigation; a freer use of the methods of experience. We need more faith in principles. Education should not be regarded as a process instituted on the human being, to fit him for a specific employment, by the instillation of a given amount of knowledge into his intellect; but *as the complete development of human nature, with a view to the habitual discharge of all its relations.* This nature, and these relations, should be studied, as the means of deducing the laws of education. Principles should take the place of methods, and methods be regarded as but modes of principles.

Education must be deemed imperfect, until we shall be able to take children, and so bring our processes to bear upon their nature, as to mould it, with unerring certainty, into the image of our hopes and desires. Human nature thus subjected to the searching scrutiny and power of induction, and facts and experiments viewed in the light of general experience, are the only conditions upon which education is to assume the rank of a fixed science, as a docile instrument in the hands of man.

The language of verified experience has never yet been fully spoken regarding man. His whole being has never yet been cherished by a genial education. No experiment has yet been made adequate to the tendencies and wants of his nature. We do not yet know what education will do for him, commenced in early infancy, and conducted, in accordance with the laws of influence, through the successive development and completion of all his capabilities.

The era, it is believed, is not far distant, however, when this will be attempted; — when the study of children will be the acknowledged means of becoming acquainted with human nature, and of operating upon it successfully; — when the phenomena of the infant mind will be faithfully observed, and the results verified and combined in theoretic forms, for the guidance of instruction; — when, instead of investigating the adult, as developed under conventional influences and conditions, we shall look, at once, into the infant spirit, as it comes fresh from the teeming womb of nature, and trace its progressive evolutions as it advances through time.

This will be the day of great things; the golden age of divine philosophy; the legitimate employment of the human intellect for unsealing the fountains of light and life, to renovate humanity. Hitherto we have looked outward for wisdom; we have not looked inward, and drank at the waters which spring up into everlasting life. The errors of previous ages of external observation are all accumulated in man's discordant and broken experience, without order, sequence, unity, or analogous data; obscuring truth, by the clouds and darkness thus gathered over it.

But this era will pass away. Light will break forth from the supposed desert of the infant mind. The star of observation will guide the wise men to the infant cradle, to study the young child, who is born a teacher to humanity. Man's condition will be adapted to his being: the renovating agency will operate on all his powers. Human nature, gratefully imbibing the genial influence, and forgetful of past injustice, will rise into life, and light, and purity.

LECTURE VII.

ON

TEACHING

GRAMMAR AND COMPOSITION.

BY ASA RAND.

TEACHING GRAMMAR AND COMPOSITION.

As the basis of all the remarks which I have to make upon Grammar, I lay down this position: — that every language has a grammatical construction, which is independent of a system of grammatical rules. The rules of construction must be conformed to the usages of the language, but should never control them. In other words, the people of any country, who employ a common language for the inter-communication of their thoughts, do it in a common and uniform method. Take, for instance, a people whose language is merely oral. They are ignorant of the principles of its construction, and of the rules of speech to which they conform every hour of the day. Yet those principles exist, and those rules might be laid down in a grammatical treatise. Their articulate sounds are combined in words, which are arranged in sentences for the expression of thought; and all this is done in a manner nearly invariable. Their grammar, in fact, began with the origin of their language. It has been gradually changed, by the introduction of new usages, till it has arrived at its present state. It varies from age to age. But fix your eye on any given period; and of the unwritten language of that period you may truly say, it has its principles of grammatical construction, no less than the language of the most literary people on earth. So the laws of the material world existed, and were in constant operation, antecedently to the discoveries of philosophers. The air was inhaled by the lungs, and sent life through the whole body, long before the physiology of man or the properties of the air were known. So the rules of refined, social intercourse are established by polite practice, and not by the direc-

tion of a master of ceremonies. They held their dominion in community, long before Chesterfield gave us a manual of etiquette.

In forming a system of rules for a written and cultivated language, its principles were obtained by discovery, not by invention. Writers on the subject did not prescribe arbitrary rules. Theirs was the humbler office of ascertaining the practice of the best speakers and writers; of inquiring into the inflections and idioms which usage has established; and then of putting a declaration of these facts into intelligible and systematic form. And this is the province of both teachers and learners, from the beginning to the end, if end there were, of the study of grammar. The most profound writer can do little more, than push his inquiries more acutely and more extensively than others. His object still is to acquire facts, to understand authorised usages, and to embody his discoveries to aid the investigations of others. When he theorises, he transcends his appropriate limits; when he dogmatises, he usurps an unjustifiable authority.

How has the language of the Sandwich Islanders been reduced to writing and to grammatical rules? An Anglo-American first learning the meaning and use of their common words. He then adopted an alphabet — letters to be combined into the syllables and words which were in use. This is the "first part of grammar," or "orthography." It was optional with him to adopt a known alphabet, or to invent a new one, or to make one compounded of two or more; it being sufficient that the characters should be understood to represent the distinct sounds, and that they should do it in the least complicated manner. Now he was prepared to write a language which had never been read or written before; and to teach those to read and write it who had spoken it from their infancy.

In settling and arranging their etymology and syntax, he could not proceed one step beyond the practice of the natives. He could make no laws for the barbarians in this matter; their usages gave laws to *him*. If they formed the oblique cases of the noun by prefixes or different terminations, he could not confine them to the preposition and an invariable orthography of the noun. If they employed no auxiliary verbs, he could not introduce them. If they uttered their wishes, like ourselves, by the use of a principal verb and another in the infinitive, he could not compel them to use the

optative mode of the Greeks. These slight specimens illustrate the facts, that he was obliged to learn of them before he could teach them; and that the principles of their grammar existed, long before they were known to literary men. Should this pioneer of literature in those islands continue his labors, he might contribute to the improvement of the language; but almost his sole province as a grammarian would be, to ascertain and unfold existing usages.

I may have seemed to dwell unreasonably upon a simple fact. Yet, when I develope its practical bearings, I hope to show that the discussion has not been useless.

This simple fact is not universally known among teachers of grammar; much less is it so remembered, as to be practically useful. Early pupils seldom hear of it. The present days are indeed better than the former; but in the period of my boyhood, we had strange notions of the science of grammar. We did not dream of anything practical, or applicable to the language we were using every day, till we had "been through the grammar several times," and "parsed" several months. Why? Because we were presented at once with a complete system of definitions and rules, which might perplex a Webster or a Murray, without any development of principles, any illustrations which we could comprehend, any application of the words to objects which they represent. We supposed, when we ventured to frame a thought, that the dogmas of our "grammar books" were the inventions of learned men; curious contrivances, to carry the words of a sentence through a certain operation which we called parsing, rather for the gratification of curiosity, than for any practical benefit or use. The rule in grammar would parse the word, sometimes a most sturdy and indomitable word, as the rule in arithmetic would "do the sum" and "give the answer;" and with such exploits we were satisfied. When we found that the nominative case did indeed govern the verb, or come before it, (except when it happened to come after it), — when we accidentally perceived that the rules did actually apply to sentences, and that to observe them would really make better sense than to violate them — then great was our admiration of the *inventive* powers of those great men, who had been the lights of the grammatical world.

The books and the method of instruction were faulty. The natural order of things was inverted. The results of investigation were given us, in the form of general abstract rules, instead of the first principles of the science. It was the aim of the teacher to crowd these abstract notions into the mind of the pupil; while it was the highest ambition of the latter, to receive them with all due submission and gratitude, and treasure them up against a time of need. He believed, though he could not understand, that there would be a time for using his treasures when he should become a man, especially a learned man. Time was thus wasted in a useless study. Many have completed that which was deemed a full course, without acquiring those first principles, which should have been taught in the earliest lessons. A due regard to the fundamental fact which I have noticed, would have changed the character of our school books, and inverted the method of instruction, as will be shown in subsequent remarks.

What is the legitimate province of one who prepares an original treatise on grammar? Our fundamental principle gives the reply. It is, to ascertain the principles and usages that exist, and put them into form and arrangement. In doing the latter, his power is in a great degree arbitrary. The whole nomenclature of the science is at his option. The arrangement of words into classes, or "parts of speech," is partly arbitrary; together with their divisions and subdivisions. Accordingly, considerable variety in these respects has obtained among able and accredited writers; and a perfect uniformity is by no means essential, though it may be desirable. Every word used in the language may be classed in an intelligible manner, without such uniformity. For, though we must have the noun and the verb, (by whatever names they are known,) the same may not be true of the noun and the adjective. Some writers make them separate parts of speech, entirely distinct. Others call them both nouns; and mark the distinction which does and must exist in fact, by denominating one as the substantive noun, the other as the adjective noun. One makes all verbs either active, passive, or neuter. Another excludes the passive. Another distinguishes the active transitive from the active intransitive. Some make six tenses of the verb; others but three. For the latter number it is urged, with

apparent conclusiveness, that all conceivable time is divided into *past*, *present*, and *future;* and that it is absurd to speak of any other. It is true that time is so divided; and it may also be subdivided. In the use of language, we locate actions and events in different periods of past time, and also of the future. Not so of the present, which is an indivisible point. Of the present moment — it is almost literally true, that we "can never say 'tis here; but only say, 'tis past." While we speak, it is gone. Therefore we only use words denoting the indivisible point, without antecedent or consequent. But as we subdivide the past and the future in fact, by the use of language, it seems proper to mark those variations by the number and names of our tenses. If we mark *any* variations of the verb in regard to time, why not all which are in use?

Many diversities of this kind may be admitted without detriment. The object of each writer should be, to reduce the usages and principles of the language to an intelligible system. The excellencies of a good system are, simplicity; harmony or symmetry of the parts; lucid arrangement; completeness, or its comprehending all that is essential or valuable; and its adaptation to use in the hand of the teacher or the learner. I believe a better system could be formed than that in common use; one which would give first principles their appropriate eminence, and technical rules and names their comparative inferiority. Yet I should exceedingly deprecate any attempt to abrogate the system of Murray and other standard authors. After the earlier stages of instruction, pupils must have a text book, and study it most thoroughly. We may as well use Murray's as any other. Every deviation is not an improvement. Those amendments are most likely to find favor and be useful, which take away from the system arbitrary enactments, and conform it more to real practice. Those alterations cannot be admitted, which have nothing to recommend them but their strange removal from the precincts of common sense. A writer in Scotland, a great reformer, substituted the name *pointer* for article, because it points out the signification of the noun; *name* for noun, because it is the name of a person or thing; *ad-name* for adjective, because it is added to a noun; *for-name* for pronoun, because it is used for a noun; and *word* for verb, because it is *the* word by way of eminence, a part of speech with which we cannot dispense.

This remark suggests, that the general observance of our first principle would exceedingly abridge the labors of system-builders, and save them the mortification of seeing their castles in the air vanishing like vapor. Of this class of persons the world has been burdened with a sufficient number. One proposes a new orthography, reducing every vowel to one sound, discarding all silent letters, and making our written language as strange to our eyes as the Iroquois or Hindostanee. Another would make an entire revolution in the parts of speech; another, in the rules of syntax. One would present our children with a grammatical tree, with golden fruit on every twig. Another has a grammatical machine, for throwing off first-rate young grammarians by the turn of a crank. Another discards, as well he might, the slow and tedious process of dictation, and reverential reception of mysteries; and bids the young aspire to a complete knowledge of their mother tongue, by listening to ten or a dozen lectures from a distinguished professor. They are a goodly company of reformers, "all on hobbies;" but many of them know not the first principles of their profession; which is, that they should learn and teach the language *as it is*.

It pertains also to the writer of a grammatical treatise, to expose inelegancies, vulgarisms, anomalous constructions, foreign and barbarous admixtures, and whatever else appears to him inconsistent with the genius and best usages of the language, or calculated to introduce corrupt innovations. In discharging this service, his suggestions will be received with respectful attention, in proportion as he has earned a reputation for wisdom and fidelity in his investigation of the language itself, and for judgment and skill in naming and arranging its principles.

A due regard to this fundamental truth, would essentially improve the common method of instruction, and of study. Here permit me to mention a fact, which must have attracted your notice; the fact, that some persons speak and write with greater grammatical accuracy, without any knowledge of the science of grammar, than others who have long made it a special study. We can account for this fact, only by adverting to the difference in their education; for education, be it remembered, is not study alone. The one has been accustomed, from his infancy, to hear the language spoken correct-

ly; and has imitated the example. His reading has contributed to the same result. The other has been moulded, from early life, by examples of a different character. He has studied grammar as a theory, as an abstract science, and an exercise of the memory; but has had little benefit of illustration, and still less of that early discipline of his mind and his tongue, which would enable him to reduce theory to practice. Practically, therefore, he remains a bungler in the use of language; and, while he wears laurels upon his brow, and has the "certificate of president and fellows" that he is a "Master in Arts," in almost every sentence he utters, murders "the people's English."

The common method of imparting and acquiring a knowledge of English grammar, need not be here described. I hasten to state the plan which I would recommend; and give my thoughts upon it with some enlargement.

Suppose, then, that the combined excellences of all treatises on grammar, that is to say, all the discoveries which have been made of usages and principles, to be collected in one book. Suppose they have all been made by one man; the only writer on the subject; one who has himself dug out all the real knowledge of grammar which is now extant in books, or in the heads of living men. He has this knowledge in his own mental treasury, and the quintessence of all the books in one manual, for the daily use of himself and his pupils. He is to take a child as young as may be proper, and impart to him his own knowledge of grammar; and so to impart it, that it shall be in possession of the child for practical uses; not merely that he may be able to unravel and expound the sentences which others have penned, but that he may, with readiness and elegance, "speak and write the English language correctly." Permit me to suppose myself that man, and to describe in this way, the course which I would suppose.

Now if it be true, that the science of English grammar is nothing else than a correct knowledge of the usages and principles of our language, it would seem natural for me to take the same course with my pupil, that I have myself pursued. I will then induce him to investigate also. He shall begin where I began, and I will conduct him forward by the same successive steps; with this differ-

ence, that I will be his guide, whereas I groped my way alone. I will not at once set him at the end of the journey, and pour my gathered treasures upon his table, to dishearten and confound him.

Now I commence my labor as a teacher. — My pupil, to the age of ten or twelve months, is incapable of studying grammar. Then, he cannot even write, or read; but he can hear and speak; he can understand me on some topics; he can remember. He begins also to form his habits; and it is the most susceptible period of his whole life. He can imitate me also; and for several years to come, he will learn more by imitation, than by all other means combined. He imitates my manners and gestures, the tones and inflections of my voice, my pronunciation of words, and my manner of combining words and sentences. Now therefore my course is plain. I must use correct language before him, and see that it is always used in his presence, strictly prohibiting all "gibberish" and "baby-talk;" or he will be made a bad grammarian, perhaps irretrievably. I must employ simple language with him; but it need not be bad English. Why should I insult his understanding, by talking jargon and nonsense; and by such combinations of words, as I should reprove him for adopting when he is older? If he hears only correct language, he will seldom use any other; and will learn the right use of words by mere imitation, before he can read his Accidence, or get the notion of a noun. If he commits mistakes, as he undoubtedly will, I will give him the correct phrase. His mistakes, however, will generally be such as ought to be expected: such as forming the irregular verbs regularly; as when he says, "I *taked* the book — I *bringed* my chair." He has noticed the common practice, and adopted the general rule; but is not aware of the exceptions. He is making a rule for himself, contrary to usage, and must be set right.

It will be said, my plan is useless, for a child can never be kept under the influence of proper example. I grant that the obstacles are formidable indeed; but if the notion were once scouted from society, that bad language before children, is necessary or harmless, *one* point would be gained. And then, if nurses, and mothers, and elder children, and fathers too, were once instructed in the practical use of good language, the work would be done. In one genera-

tion, therefore, a reformation might be effected, if all who are now in the schools were properly taught.

I proceed to consider *direct* instruction. At what age should it be commenced? In my apprehension, the age is not materially important. If you begin with the pupil at the age of five or six years, the instruction must be simple, his progress slow, and the exercise mingled with others. If at the age of eight or ten, it may be made a more serious and regular business.

In guiding my pupil, I would go through with several distinct courses of exercises; commencing with the simple elements; embracing, in each successive course, a greater variety of particulars, and those of a more difficult character; going through the whole of etymology in every course, and adverting to syntax, in every course, after the first or second.

I. My first course would be, *to define the parts of speech*, and imprint them indelibly upon his memory by frequent repetition. I would teach him by familiar conversations, entirely without the use of a book of grammar. I would make familiar remarks; ask questions; invite questions from the learner; present sensible objects for illustration; and use every effort to make him feel, that while he is in the daily practice of speaking and hearing, he is learning a living language.

I would begin with the noun, in some method like the following. "Every person, and everything, has a name, and that name we call a noun; as *John*, *Peter*, *Fanny*, *Lucy*, *table*, *chair*, *book*, *pen*. A chair is not a noun; but *the word*, *chair*, is a noun." It will not confuse him to employ other words applying to the same persons or things, inasmuch as he knows they bear different names; as *Peter* is a *boy*, and *Fanny* is a *girl*. So I would say, "*Boy*, *girl*, *man*, *child*, *teacher*, *scholar*, *dog*, *cat*, are nouns." Without saying a word about "parts of speech," I would thus give him a definite idea of a noun: and continue or repeat the conversation till it becomes perfectly familiar. With abstract nouns, at present, I would have nothing to do; nor with genders, or cases, or any other distinctions.

The learner should soon be invited to mention nouns himself; the names for himself; the names of persons or objects which I had

not given him. He may also be early directed to a book, and be requested to point out the nouns in an easy sentence, or to underscore them with a pencil. These exercises should be examined and corrected; and it is useful to try his judgment, whether the word which he marks, is really a name.

In the same easy manner I would give my pupil an idea of the adjective, principally noticing the qualities of sensible objects; referring him, for instance, to the evidence of his eye, his ear, and his palate. Let him taste a *sweet apple*, another *bitter*, another *sour*. Each of the objects is an apple; they all bear the same name; and that name is a noun. But their qualities are different; each of those qualities has a word to express it; and those words are adjectives. The child understands what you mean. So let him distinguish, by the eye, the *large* apple from the *small;* the *green* apple from the *white*, and the *red;* and the *raw* apple from the *baked*. Let him advert to *man* as a noun, and mark the difference between the *tall* man and the *short* man; the *black* man and the *white;* the *young* man and the *old*. In the same manner as that employed about the noun, he may be made to possess a knowledge of the adjective, which he will never lose. The pronoun, also, and all the parts of speech, should be taught in the same manner. In respect to the verb, I would, during this first course, take only those words which signify *to do* something, and give examples only of *active* verbs. When this lesson is firmly riveted in the mind, it will more readily comprehend the neuter and the passive verbs — those which "signify to be, and to suffer."

In this course, the distinctions of modes and tenses of verbs, the comparison of adjectives, and all the variations of other parts of speech, should be entirely omitted. The sole object should be to teach some prominent and principal fact under all the parts of speech, and so illustrate and explain it that it shall never be forgotten. With anything beyond this, the memory should not yet be encumbered. It may not be advisable so much as to say, there are any parts of speech; and it is of no consequence that the child should know whether there are nine or ninety. It might be better to arrange in *classes* the words which are taught, than to denominate them "parts of speech." One is a class of words which stand

for the *names* of things; another, of those which signify *to do something;* another, of those which are used *instead of nouns*, to avoid the unpleasant repetition; and so of the rest. The nomenclature of grammar is out of place for a young beginner. A large class might be taught in this manner, with the same facility as an individual.

II. A second course of instruction should be *a review of the first*, with *a communication of additional leading principles, still leaving minutiæ to a later period.*

It may now be advisable to name some of the more easy abstract nouns; the distinction of nouns into common and proper; the genders and cases, so far as they are connected with those verbs which the child understands; a few of the modes and tenses of active verbs; the comparison of adverbs; the two kinds of conjunctions; and a few other particulars.

This course, like the first, should be conducted orally, without reference to a book, except when a vocabulary is needed. I would now show the combination of words more distinctly than before. I would give the pupil several examples of every principle or fact which I desired to inculcate, and then always exercise his ingenuity in selecting similar examples for himself.

I will briefly illustrate the method of teaching the comparison of adjectives. Select sensible objects, and let the quality to be compared be distinctly perceived. Take three apples: A is sweet; B is sweeter; and C is the sweetest of the three. John is tall; William is taller; and George is the tallest of them all. The child perceives that you mean an increase of the quality. Take, then, examples where the quality is decreased. A short pen; a shorter pen; the shortest pen. A small book; a smaller book; the smallest book. Not the smallest book that may be found; but the smallest of those compared. In a short time, a child will be able to perceive the application of the adverbs, for the purpose of comparison.

The cases of nouns, and the connection of the nominative and objective cases with the active verb, should be taught together, and by way of familiar example. Take the sentence, *John reads the book.* The learner knows that *John* and *book* are both names, or

nouns; and that *reads* denotes doing a certain action. Now we say, *John reads the book?* Who reads? John. What does John read? The book. Does the book read John? No. Does the book read at all? No. Then John does something? Yes. What does John do? He reads: he reads the book. Here then are two names. One is the name of a doer — of one who does something. The other is the name of the object that he looks at and attends to. Which denotes the doer? *John.* And what does *book* denote? The object of his attention; it is what he reads. Now nouns that are names of doers or agents, or those which do something, are frequently used in this manner; and we say they are in the nominative case. The other is of a class which denote objects; and are said to be in the objective case. And the verb that denotes an action done to an object, is called a transitive verb. Now let the pupil spend several half hours for successive days, in selecting *agents* and *objects*, and the verbs which connect them.

From this exercise, the transition is easy to the consideration of the verb in the passive form, when the object precedes the verb like a nominative, and the agent follows in the objective case with a preposition. But this is too complicated for the present course. It may be taken up subsequently, in connection with a review of the preceding.

Children are very apt to say "He reads *slow*—he runs *swift*," especially when they hear others speak thus improperly. They use adjectives for adverbs, not distinguishing the qualities of things from those of actions. A class should therefore have a few exercises, for the sole purpose of learning that distinction. And, as in every other instance, it is better to show it — than to teach it. "His reading is *slow;* he reads *slowly.* A *swift* race; he runs *swiftly.*"

III. In the third course, I would pass through the whole system again, *gathering up all the important distinctions which were before omitted.* I would not yet follow the order of a grammatical treatise; but an arrangement more natural and simple. The office of the teacher should be, to illustrate every principle by known practice; or rather to bring up usages before them, and lead them to ascertain principles for themselves; aiding them by the nomenclature and the established arrangement, as occasion may require;

uniting the exercise of parsing, according to the grammatical treatise, *after* they have seen examples, and in the order that the series of lessons demands. Consequently, this course will require the frequent *occasional* use of a book of grammar. Without enlarging here, I will name some of the facts to be taught in this course, in addition to those of the second. They should be the possessive case and genders of nouns; the different classes of pronouns; the neuter, active, intransitive, and passive verbs; the regular verb, and a few of the irregular, enough to make them familiar with the principle; the tenses and voices of the participles; the use of conjunctions connected with verbs; and the rules of syntax, without their exceptions. The rules should now be committed to memory.

IV. My fourth course should be, *a regular and systematic study of a treatise upon grammar*, (of the common size for schools,) *in constant connection with parsing, gathering up all the remaining fragments.* By fragments I mean, irregular adjectives and adverbs; the minutiæ of the pronouns; pronominal and participial adjectives; impersonal, irregular and defective verbs; the active, passive and neuter participles; the exceptions to the rules of syntax, and the "observations" which are commonly made in the books concerning their application.

This course is intended to give the pupil the *philosophy* of the language, in its elements. We have before analyzed sentences; and in fact, have analyzed the book of grammar, and impressed upon the mind its most important principles. The synthetic method is now pursued — to collect and arrange the principles *which the pupil himself has discovered*, and put them in regular order for future use. He still combines parsing, or the practical application of principles, with the methodical study of rules. He is now to gird himself to close application, with which I would by no means dispense. It is absolutely essential to high attainments in any science. It should be employed in every study, as necessary for the discipline of the mind and the formation of character. But I have passed through the preceding course, to relieve young minds from the most disheartening toil; and to invigorate them for close application, not to supersede it. I would make them feel continually, that their labor is one of immediate and practical utility; and they will learn to account it a pleasure.

In this course, it is highly useful to ask frequently the *reason* of assertions which pupils make. For instance, "*Why* is the verb neuter, or transitive? *Why* is the noun in the objective case, or the nominative? *Why* is the word an adjective here, and not an adverb? *Why* is it a perfect participle, and not a verb in the perfect tense? *Why* is it in the indicative mode, and not the subjunctive? *Why* has the potential mode but four tenses, the infinitive but two, and the imperative but one; while both the indicative and the subjunctive have six?"

If the same word may be of two or more parts of speech, ascertain the sense in which it is used, to make it of one or another.

Compare also one part of speech with another, in their expression and power; and show how, in particular instances, one is derived from another.

Through this course, as in all the preceding, often use false grammar, and let the pupils correct it, in order to remove practical abuses, and impress the truth more deeply.

V. A fifth course is *a review of the book of grammar, and a critical investigation of language.* It is intended for those who can parse readily in prose; who have acquired a thorough knowledge of general principles; and who are versed in the various particulars, and in the irregularities usually noted in the common treatises. A more extended work should now be adopted for study; and the exercises for parsing and criticising, should often be blank verse, and other difficult selections. This study may be profitably connected with the writing of themes by the pupils, and with the rhetorical examination of their own and others' composition. The more intelligent pupils may read, in connection with these exercises, a system of rhetoric, and the approved critical writers. For the classical scholar, the gentleman of literature, or the teacher by profession, this is the same course which he will traverse and re-traverse, through life.

To sum up all, the principles on which the proposed method of instruction are founded, are these:

The teacher is not to require that his pupil receive the *ipse dixit* of the author whose book he uses, or his own. He is not to lay down rules, but to teach principles.

When he teaches a principle he must show that it is established in fact, or that such is the usage. It is best, therefore, to show the usage, and infer the principle.

A fact should be so far examined, as to show that it is not an isolated thing, an exception to a principle; but so common as to establish a principle, from which you may frame a technical rule.

Hence, parsing should accompany or precede the study of definitions, and principles and rules.

The teacher and pupil begin with the most simple, and prominent, and leading facts.

They dwell on every one of these, till it is familiar to the learner, so as never to be lost.

They do but one thing at a time, or at most two; and let minutiæ pass, till they can be better understood and assigned to their appropriate places. It is unwise to carry a learner through all the inflections of a verb, and several verbs of different kinds; before he actually knows what the nature and uses of a verb are, and why it is inflected at all.

The teacher prepares himself, by acquiring the theory and application of the science. He learns the theory *through* the practice or usages of good writers and speakers; and teaches in the same manner. He is thus able to exemplify the principles which he teaches, in all the language he employs with his pupils.

He gently corrects the common language employed by his pupils, in all their intercourse with him.

He begins without books of grammar, and teaches them how they are made; by searching out usages, then inferring principles, and showing them immediately the necessity, the application, and the reasonableness of every rule that is mentioned. Rules are seldom committed to memory till they are wanted.

He seizes on the grand distinctions of the principal parts of speech, in the first course; and makes them familiar with the method. In the second, he adverts to other important distinctions, making constant reference to the knowledge attained in the first. In the third, he treats of the remaining important distinctions, with many leading particulars and divisions. The fourth course is pursued in the synthetic method. It is a systematic study of a treatise;

including exceptions, deviations, irregularities and anomalies. The fifth comprises a more critical survey of the whole system; with the application of principles to more abstruse and complicated kinds of writing. The whole is conducted by the teacher, very much in the way of conversation and familiar lecturing; with a constant reference to practice.

A few moments only are left, for the consideration of the other part of the subject assigned me.

By composition, I understand *inditing*, or putting one's own thoughts into language, whether oral or written. Thoughts must be presented in sentences, grammatically and rhetorically constructed, so as to convey the sense intended, and nothing more; — to convey it clearly, accurately, forcibly, and, if it may be, elegantly. So far as Rhetoric is connected with composition, I forbear to enter upon the subject; as it has already been discussed before the Institute, far more ably than I could do it. It is highly desirable, that the measures then proposed, and all that can be devised, should be carried into effect. How many of those who have studied a system of Rhetoric, can examine a chapter of a standard work, and apply the principles they have learned, with facility and correctness? How many can bear those principles in mind, while penning their own thoughts, and conform every sentence to the standard? Something that shall render rhetorical rules available in the formation of style, and useful in future life, is yet a desideratum in most of our schools. But I purpose merely to throw out a few remarks, which may be useful to beginners in the art of composition; and possibly, to those teachers who have the direction of their early efforts.

I remember to this day, the terror that came over me, when first required, at the age of eighteen, to "write a composition," for a school exercise; how I was set to work without materials, or tools, or instructions. I had no subject — no thoughts. My mental operations were almost suspended. The soul looked out trembling, now upon vacancy, now upon dark chaos. I would shudder at the thought of imposing such a task upon a pupil of my own; and would gladly discover "a more excellent way."

The measures I would propose may be divided into the preparatory, and the direct.

As preparatory, I would say: In all the studies and pursuits of your pupil, give him, at an early age, *real knowledge* — a knowledge of things, of facts, of truths — correct, definite knowledge. Give him a knowledge of the uses of things, or the application of truths and facts. Make him acquainted with correct and appropriate language — a language which to himself conveys a definite sense. Make him acquainted with books adapted to his capacity. All this is important; for he can never write good sense without this preparation; and the earlier he begins to look at things as they are, and to form the habit of investigation, the better is he able to take his pen at the proper time.

Accustom the child early and habitually, to utter his thoughts. In the family and the school, talk with him and 'draw him out.' Use the conversational method freely, when teaching any subject. Make him put the substance of an author's meaning into his own words, and give you his own original thoughts, which this method of instruction will elicit. When the pen is to be taken in hand, give him a theme; one about which a child can have thoughts. Or, if he prefer it, let him select for himself. But by no means, send him away to his task without one.

Ask of him a short exercise at first — only a few sentences.

Talk over the theme with him, or to him, before he begins. Perhaps it will be an account of some transaction which he or you have witnessed. Then relate the story yourself in a familiar way; and ask him to seize on the principal points.

Encourage him to come to you in his embarrassments, and show you his progress. Then help him; or rather lead him. Give some turn to his thoughts; propose some query; thus putting his mind in motion upon his theme.

But he desires to know how he may control his mind, and bring it to bear upon his subject, when alone. Tell him, "To *write* a thought — first, *catch* a thought. You *have* thoughts. They are rushing through your mind, and flying away. Seize upon one, and put it down; and see if it will not be followed by another, and another. Do not stay for the wisest and the best, or to select the most elegant words. Put down the thoughts that come, in the dress they wear. You can revise afterwards."

Tell him to seek for some connection between successive thoughts; every new one being distinct from the preceding.

Encourage him, in his early efforts, to bring you his first draft.

Be not severe in criticising; but strengthen his weak and awkward footsteps in this rugged way. It is well to omit noticing many defects; and inquire, whether he has expressed appropriate ideas in tolerably correct language. If so, let him pass for the present.

Now talk over the topic with him, with a view to his writing again upon the same. Let him see wherein he has done what he intended, and what the subject required; and wherein he has failed. Suggest alterations, and give him again some leading thoughts. Perhaps, however, this course should not often be adopted.

From these beginnings you can proceed with him gradually, in the same general manner, to longer exercises; to more difficult themes, and to more severe corrections. You may soon adopt a freer application of rhetorical rules; or rather, teach him to discover and apply rhetorical principles. You may eventually induce that energy and polish of manner, that shall make him an easy, fluent, forcible and elegant writer. His knowledge of grammar and rhetoric will not lie as useless lumber, in the storehouse of his memory; but will be at his command, as occasion may require.

For the want of an early exercise of the tongue and the pen, many learned men are but ordinary, as speakers and writers. Some can address an audience acceptably, who cannot write. Others can compose well for the press, who can attempt nothing extemporaneously, before an audience. Others still have great and valuable mental treasures, who cannot impart them by either method. We know that they are learned and profound; but they cannot "do good and communicate." It is a misfortune ever to be deplored, that knowledge should thus be shut up in reservoirs, which might have been flowing in living streams, to fertilize the world. A strong argument is this, for new and multiplied efforts, to revive and extend a familiar and thorough knowledge of grammar, and the art of composition.

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